Sonoma County Water Agency
Stream Maintenance Program (SMP)

Annual Notification for 2011 Maintenance Projects

Prepared for:
The SMP Inter-Agency Working Group

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Sonoma County Water Agency
Stream Maintenance Program
2011 Projects

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Section 1
Project List and Locations

1A. Sediment Removal and Bank Stabilization Project List and Type

The following sediment removal and bank stabilization projects are anticipated for the 2011 maintenance season:

- **Three Localized Sediment Removal Projects at:**
  - Bloomfield Creek 1: (concrete portion near Stormy's Restaurant)
  - Laguna de Santa Rosa 5 and 6: immediately upstream and downstream of East Cotati Ave.
  - Windsor Creek 1: at culverts downstream of Windsor Rd.
- **Nine Reach Scale Sediment Removal Projects at:**
  - Austin Creek 3: between Boas Dr. and Jack London Dr.
  - Coleman Creek 2: Snyder Lane to Cook Creek confluence.
  - Corona Creek Reach 1: between Corona Creek Reach 2 and Capri Creek Reach 2.
  - Fryer Creek 2 & 3: 4th St to MacArthur St.
  - Gossage 1: Laguna de Santa Rosa to Lowell Ave.
  - Laguna de Santa Rosa Reach 1: between Stony Point Rd and Llano Road.
  - Santa Rosa Creek 2: upstream of Willowside Rd.
  - Todd Channel 3 & 4: downstream of Todd Road crossing.
  - Washington 3: upstream of Madison St.
- **Sediment Basin/Instream Basin Clearing at:**
  - Adobe Creek Sediment Basin: clearing sediment and vegetation at the Adobe Creek basin (Adobe Creek Reach 2).
  - Cook Creek Sediment Basin: clearing sediment and debris at the basin (Cook Creek Reach 2).

- Copeland Creek at Country Club Dr.: clearing sediment and debris along the instream Copeland Creek basin located at the crossing at Country Club Road, Reach 3 & 4.
- Copeland Creek at Snyder Ln.: sediment removal at the Copeland Creek instream basin located at the Snyder Lane crossing, Reach 4 & 5.
- Five Creek at Snyder Ln: sediment removal at the Snyder Lane Crossing Reach 1.
- Wilfred Creek: sediment removal at Wilfred Creek instream basin located on Reach 1, downstream of the culvert outfall at Snyder Lane.

■ **Reservoir Inlet Clearing:**

- Brush Creek Reservoir
- Piner Creek Reservoir
- Matanzas Creek Reservoir
- Santa Rosa Creek Reservoir (Spring Lake)

■ **Bank Repairs at the following two locations:**

- Fryer Creek Reach 4: 20 ft long bank repair located at Andreux St.
- Todd Creek Reach 4: 73 ft long bank repair located approximately 160 ft upstream of Hunter Creek confluence.

1B. Sediment Removal and Bank Stabilization Project Site Locations and Other Geographic Information

The following table presents location and geographic information for each of the 2011 project sites.

Table 1-1: Location and Other Geographic Information for Project Sites

Project Site	Creek	Tributary To	SMP Reach	USGS Quad Township, Range, Section	Latitude/ Longitude
Localized Sediment Removal Projects					
Bloomfield Creek at Bloomfield Rd.	Bloomfield Creek	Americano Creek	Bloomfield 1	Valley Ford Quad T6N, R9W Section 33	38°18’43.46”N 122°51’07.67” W
Laguna de Santa Rosa downstream of East Cotati Ave.	Laguna de Santa Rosa	Russian River	Laguna de Santa Rosa 5	Cotati Quad T6N, R8W Section 26	38°19’39.90”N 122°42’12.65” W
Windsor Creek downstream of Windsor Rd.	Windsor Creek	Mark West Creek	Windsor 1	Windsor Quad T8N, R8W Sections 14, 23	38°31’43.60”N 122°49’32.48” W
Reach Scale Sediment Removal Projects					
Austin between Boas Dr. to Jack	Austin Creek	Brush Creek	Austin 3	Santa Rosa Quad T7N, R7W	38°28’05.51”N 122°39’42.44”

Project Site	Creek	Tributary To	SMP Reach	USGS Quad Township, Range, Section	Latitude/ Longitude
London Drive				Section 8	W
Coleman Snyder Ln to Cook Creek confluence	Coleman Creek	Laguna de Santa Rosa	Coleman 2	Rohnert Park Quad T6N, R8W Section 13	38°22'10.45"N 122°41'07.29" W
Corona near Sonoma Ct.	Corona Creek	Capri Creek	Corona 1	Cotati Quad T5N, R7W	38°15'35.10"N 122°39'03.29" W
Fryer upstream of MacArthur St.	Fryer Creek	Nathanson Creek	Fryer 2 & 3	Sonoma Quad T5N, R5W Section 7	38°17'12.07"N 122°27'52.22" W
Gossage: Lowell Ave to Laguna de Santa Rosa	Gossage	Laguna de Santa Rosa	Gossage 1	Cotati Quad T6N, R8W Section 22	38°20'35.52"N 122°43'57.56" W
Laguna de Santa Rosa downstream of Stony Pt Rd	Laguna de Santa Rosa Creek	Russian River	Laguna 1	Two Rock Quad T6N, R8W	38°21'20.05"N 122°45'10.11" W
Santa Rosa upstream of Willowside Rd.	Santa Rosa Creek	Laguna de Santa Rosa	Santa Rosa 2	Santa Rosa Quad T7N, R7W	38°26'42.99"N 122°48'20.99'W
Todd upstream of Santa Rosa Ave	Todd Channel	Bellview-Wilfred Channel	Todd 3 & 4	Santa Rosa Quad T6N, R8W	38°22'54.33"N 122°42'47.28" W
Washington Upstream of Madison St.	Washington Creek	Petaluma River	Washington 3	Petaluma Quad T5N, R7W	38°14'45.03"N 122°37'59.16" W
Sediment Basin/ Instream Basin Clearing Projects					
Adobe Creek Sediment Basin	Adobe Creek	Petaluma River	Adobe 2	Petaluma Quad T5N, R7W	38°13'59.03"N 122°35'57.63" W
Cook Creek Sediment Basin	Cook Creek	Coleman Creek	Cook 2	Cotati Quad T6N, R7W Section 17	38°21'57.19"N 122°39'59.80" W
Copeland Creek Basin at Country Club Drive	Copeland Creek	Laguna de Santa Rosa	Copeland 3 & 4	Cotati Quad T6N, R8W	38°20'35.74"N 122°41'42.68" W
Copeland Creek Basin at Snyder Lane	Copeland Creek	Laguna de Santa Rosa	Copeland 4 & 5	Cotati Quad T6N, R8W	38°20'35.73"N 122°41'07.82" W
Five Creek at Snyder	Five Creek	Crane Creek	Five 1	Cotati Quad T6N, R8W	38°21'40.34"N 122°41'09.32" W
Wilfred Channel at Snyder Lane	Wilfred Creek	Bellview-Wilfred Channel	Wilfred 1	Cotati Quad T6N, R7W	38°22'20.05"N 122°41'09.67" W

Project Site	Creek	Tributary To	SMP Reach	USGS Quad Township, Range, Section	Latitude/ Longitude
Inlet Clearing					
Brush Creek Reservoir	Brush Creek	Santa Rosa Creek	N/A	Santa Rosa Quad T7N, R7W Section 6	38°29'12.57"N 122°40'16.83"W
Matanzas Creek Reservoir	Matanzas Creek	Santa Rosa Creek	N/A	Santa Rosa Quad T6N, R7W Section 6	38°27'55.89"N 122°42'22.52"W
Piner Creek Reservoir	Paulin Creek	Santa Rosa Creek	N/A	Santa Rosa Quad T7N, R7W Section 4	38°24'19.57"N 122°49'09.01"W
Santa Rosa (Spring) Creek Reservoir	Santa Rosa Creek	N/A	N/A	Santa Rosa Quad T7N, R7W	38°27'35.48"N 122°39'15.62"W
Bank Stabilization Projects					
Fryer Creek at Andrieux St.	Fryer Creek	Nathanson Creek	Fryer 4	Sonoma Quad T5N, R5W Section 7	38°17'19.30"N 122°27'58.51"W
Todd Channel by confluence of Hunter Creek	Todd Channel	Bellview-Wilfred Channel	Todd 4	Santa Rosa Quad T6N, R8W, Section 11	38°22'55.18"N 122°42'41.21"W

1C. Sediment Removal and Bank Stabilization Project Settings and Resources

Channel Characterization Sheets and Site Photos

Channel characterization sheets for the 2011 project sites were developed for, and included in, Chapter 4 of the SMP Manual. The channel characterization sheets contained within the Manual provide baseline information on the maintenance reach's setting, physical processes, geomorphic conditions, biologic conditions, and management considerations. The channel characterization sheets also include photographs depicting typical conditions of the reach. Program reviewers are directed to viewing the reach characterization sheets in the Manual (Chapter 4) to provide an overview of reach conditions.

Current photographs showing the specific location of maintenance activities for the 2011 project sites are provided in Section 2.

Potential Habitat for Listed Species

Based on possible species occurrence as shown in the table below, the applicable species-specific BMPs (identified in Table 7-1 of the SMP Manual) will be applied when conducting maintenance activities. Specifically, the BMPs which will be applied according to maintenance activity type are listed in Table 1-2. This table is an excerpt of Table 7-2 from

the SMP Manual. Maps displaying the project location relative to known biological resources are included at the end of Section 3.

Table 1-3 presents habitat potential for listed species by reach. As shown in the table, none of the project reaches are known to support or provide suitable habitat for California freshwater shrimp or Central California Coast Coho. The presence of California Coastal Chinook has been documented in Santa Rosa Creek Reach 2, and ten project reaches (Austin 3, Laguna de Santa Rosa 1, Santa Rosa 2, Laguna 5, Windsor 1, Adobe 2, Copeland 3, 4, and 5, and Spring Lake Reservoir) show potential habitat or known occurrence, at or adjacent to the reach, for Central California Coast Steelhead. In addition, the project reaches that show potential habitat for the western pond turtle include; Corona 1, Fryer 2 and 3, Gossage 1, Laguna 1 and 5, Santa Rosa 2, Todd 3 and 4, Washington 3, Windsor 1, Adobe 2, Five 1, Cook 2, Copeland 3, 4 and 5, Wilfred 1, Brush Creek Reservoir, Matanzas Creek Reservoir, Piner Creek Reservoir, and Santa Rosa Creek (Spring Lake) Reservoir.

Coleman Reach 2, Gossage Reach 1, Laguna de Santa Rosa Reach 1 and 5, Santa Rosa Reach 2, Todd Reaches 3 and 4, Copeland Reach 3, 4 and 5, and Wilfred Reach 1, may contain potential upland habitat for CTS, but these reaches are not within 500 ft. of a known occurrence. Nonetheless, SCWA is coordinating with the U.S. Fish and Wildlife Service and the California Department of Fish and Game regarding compensatory mitigation for activities in suitable upland habitat in 2011 project areas. Additional information regarding potential effects on California tiger salamander, areas of disturbance and compensatory mitigation can be found in Section 3C of this notification.

Of the project reaches, Austin Reach 3, Corona Reach 1, Fryer Reach 2, 3 and 4, Washington Reach 3, Bloomfield Reach 1, Windsor Reach 1, Adobe Reach 2, Five Reach 1, Cook Reach 2, Brush Creek Reservoir, Matanzas Creek Reservoir, Piner Creek Reservoir, and Santa Rosa Creek (Spring Lake Reservoir) are the only 2011 maintenance reaches that are thought to potentially support California red-legged frog. In addition, Cook Creek Basin Reach 2 may include potential habitat for Foothill yellow-legged frog. Finally, Laguna Reach 1 and 5, Santa Rosa Reach 2, and Windsor Reach 1, have the potential to support special-status plant species.

Table 1-2: Best Management Practices by Activity

BMP	Name	Sediment Removal	Bank Stabilization	Vegetation Management							Other Activities	
				Willow Removal	Blackberry Removal	Cattail Removal	Tree Pruning and Exotics Removal	Tree Removal and Relocation	Mowing	Nursery Stock Tree Planting	Reservoir Debris Removal	Sediment Disposal
General Impact Avoidance and Minimization												
GEN-1	Work Window	X	X	X		X	X	X	X		X	X
GEN-2	Staging and Stockpiling of Materials	X	X	X	X	X	X	X	X	X	X	X
GEN-3	Channel Access	X	X	X	X	X	X	X	X	X	X	
Air Quality Protection												
AQ-1	Dust Management	X	X	X	X	X	X	X	X	X	X	X
AQ-2	Enhanced Dust Management	X	X	X	X	X	X	X	X	X	X	X
Biological Resources Protection												
BR-1	Area of Disturbance	X	X	X	X	X	X	X	X	X	X	
BR-2	Pre-maintenance Educational Training	X	X	X	X	X	X	X	X	X	X	
BR-3	Biotechnical Bank Stabilization		X									
BR-4	Impact Avoidance and Minimization During Dewatering	X	X									
BR-5	Fish and Amphibian Species Relocation Plan	X	X									
BR-6	On-Call Wildlife Biologist	X	X	X	X	X	X	X	X	X	X	X
BR-7	Special Status Plants	X	X	X	X	X	X	X	X	X	X	X
BR-8	Nesting Migratory Bird and Raptor Pre-maintenance Surveys	X	X	X	X	X	X	X	X	X	X	X
BR-10	California Red-legged Frog Avoidance and Impact Minimization Measures for Ground-Disturbing Activities	X	X								X	X
BR-11	California Red-legged Frog Avoidance and Impact Minimization for Vegetation Management			X	X	X	X	X	X	X		
BR-12	California Tiger Salamander Avoidance and Impact Minimization Measures for Sediment and Debris Removal	X		X		X					X	X

BMP	Name	Sediment Removal	Bank Stabilization	Vegetation Management							Other Activities	
				Willow Removal	Blackberry Removal	Cattail Removal	Tree Pruning and Exotics Removal	Tree Removal and Relocation	Mowing	Nursery Stock Tree Planting	Reservoir Debris Removal	Sediment Disposal
BR-13	California Tiger Salamander Avoidance and Impact Minimization Measures for Bank Stabilization		X									
BR-14	California Tiger Salamander Avoidance and Impact Minimization Measures for Vegetation Management			X	X		X	X	X	X	X	
BR-15	Foothill Yellow-legged Frog Avoidance and Impact Minimization Measures for Ground-Disturbing Activities	X	X								X	X
BR-16	Foothill Yellow-legged Frog Avoidance and Impact Minimization Measures for Vegetation Management			X	X	X	X	X	X	X		
BR-17	Western Pond Turtle Pre-maintenance Surveys for Ground-Disturbing Activities	X	X	X	X	X	X	X	X	X	X	
BR-18	Zone 1A Salmonid Avoidance and Impact Minimization Measures	X	X	X		X				X		
Cultural Resources Protection												
CR-2	Cultural Resources Investigation		X									
CR-3	Previously Undiscovered Cultural Resources	X	X	X	X	X	X	X	X	X	X	X
CR-4	Previously Undiscovered Palentological Resources	X	X	X	X	X	X	X	X	X	X	X
CR-5	Staff Cultural Resources Training	X	X	X	X	X	X	X	X	X	X	X
CR-7	Ecosystem Restoration Program			X	X	X	X	X	X	X		
Hazardous Materials Safety												
HAZ-1	Spill Prevention and Response Plan	X	X	X	X	X	X	X	X	X	X	X
HAZ-2	Equipment and Vehicle Maintenance	X	X	X	X	X	X	X	X	X	X	X
HAZ-3	Equipment and Vehicle Cleaning	X	X	X	X	X	X	X	X	X	X	X
HAZ-4	Refueling	X	X	X	X	X	X	X	X	X	X	X
HAZ-5	On-Site Hazardous Materials Management	X	X	X	X	X	X	X	X	X	X	X
HAZ-6	Existing Hazardous Sites or Waste	X	X	X	X	X	X	X	X	X	X	X
HAZ-7	Fire Prevention	X	X	X	X	X	X	X	X	X	X	X

BMP	Name	Sediment Removal	Bank Stabilization	Vegetation Management							Other Activities	
				Willow Removal	Blackberry Removal	Cattail Removal	Tree Pruning and Exotics Removal	Tree Removal and Relocation	Mowing	Nursery Stock Tree Planting	Reservoir Debris Removal	Sediment Disposal
HAZ-8	Testing and Disposal of Spoils	X	X								X	X
Vegetation Management												
VEG-1	Removal of Existing Vegetation	X	X	X			X	X		X		
VEG-2	Use of Herbicides			X	X	X	X	X				
VEG-3	Planting and Revegetation After Soil Disturbance	X	X				X	X		X		
Water Quality and Channel Protection												
WQ-1	Apply Erosion Control Fabric to or Hydroseeding of Exposed Soils	X	X	X	X	X	X	X			X	X
WQ-2	Prevent Scour Downstream of Sediment Removal	X										
WQ-3	In-Channel Grading	X	X									
Good Neighbor Policies												
GN-1	Work Site Housekeeping	X	X	X	X	X	X	X	X	X	X	X
GN-2	Public Outreach	X	X	X	X	X	X	X	X	X	X	X
GN-3	Noise Control	X	X	X	X	X	X	X	X	X	X	X
GN-4	Traffic Flow, Pedestrians, and Safety Measures	X	X	X	X	X	X	X	X	X	X	X
GN-5	Odors	X	X								X	X

Table 1-3: Habitat Potential for Listed Species by Reach

Reach	Listed Species								
	California Freshwater Shrimp	California Red-legged Frog	California Tiger Salamander	Foothill Yellow-legged Frog	Western Pond Turtle	Central California Coast Steelhead	Central California Coast Coho	California Coastal Chinook	Plants
Localized Scale									
Bloomfield 1	U	P	U	U	U	U	U	U	U
Laguna de Santa Rosa 5 and 6	U	U	2	U	P	O (M)	U	U	P
Windsor 1	U	P	U	U	P	O (M/R)	U	U	P
Reach Scale									
Austin 3	U	P	U	U	P	O (M/R)	U	U	U
Coleman 2	U	U	3	U	U	U	U	U	U
Corona 1	U	P	U	U	P	U	U	U	U
Fryer 2	U	P	U	U	P	U	U	U	U
Fryer 3	U	P	U	U	P	U	U	U	U
Gossage 1	U	U	2(2483.8) 3(157.3)	U	P	O*	U	U	U
Laguna de Santa Rosa1	U	U	3	U	P	O(M)	U	U	P
Santa Rosa 2	U	U	3	U	P	O (M/R)	U	O (M/S/R)	P
Todd 3	U	U	2(50.5) 3(622.2)	U	P	U	U	U	U
Todd 4[a]	U	U	3	U	P	U	U	U	U
Washington 3	U	P	U	U	P	U	U	U	U
Bank Stabilization									
Fryer 4	U	P	U	U	U	U	U	U	U
Todd 4	U	U	3	U	P	U	U	U	U
Sediment Basin/Instream Basin Clearing									
Adobe 2	U	P	U	U	P	O (M)	U	U	U
Cook 2	U	P	U	P	P	U	U	U	U
Copeland 3	U	U	3	U	P	O (M/R)	U	U	U
Copeland 4	U	U	3	U	P	O(M)	U	U	U
Copeland 5	U	U	3	P	P	O (M/R)	U	U	U
Five1	U	U	U	U	P	U	U	U	U

Reach	Listed Species								
	California Freshwater Shrimp	California Red-legged Frog	California Tiger Salamander	Foothill Yellow-legged Frog	Western Pond Turtle	Central California Coast Steelhead	Central California Coast Coho	California Coastal Chinook	Plants
Reservoir Inlet Clearing									
Brush Creek Reservoir	U	P	U	U	P	U	U	U	U
Matanzas Creek Reservoir	U	U	U	U	P	U	U	U	U
Piner Creek Reservoir	U	P	U	U	P	U	U	U	U
Santa Rosa Creek Reservoir	U	U	U	U	P	P	U	U	U

Source: SMP Manual Table 7-1 as updated by the BO processes and new data (Aug 2010)

[a]*Note – the maintenance activities at Todd Creek Reach 4 include both a bank stabilization near the Hunter Creek confluence and a localized sediment removal near the upstream terminus of the reach (see project descriptions and locations in Section 1A and 1B above)*

Legend

O Known occurrence in reach
O* Presence documented within adjacent reach or tributary; not applicable for fish if known barrier or reach goes dry
P Potential habitat (includes areas rated potential or marginal)
A Aestivation/Upland habitat
M Migration corridor
S Known or potential spawning habitat
U Unsuitable habitat, unlikely to occur and/or no known occurrence

CTS Habitat Rankings

1 - Within 500 ft of a known occurrence
2 - Between 500ft-2200ft of a known occurrence
3 - Between 2200 ft and 1.3 mi of a known occurrence
4 - Greater than 1.3 mi, but within SRPCS range (no mitigation required)

1D. Vegetation Management Activities

During the 2011 maintenance season, vegetation maintenance will include tree and brush thinning, and removal of exotic species and other vegetation blockages to improve hydraulic capacity and retain or enhance appropriate habitat. Vegetation maintenance will be completed according to Appendix E of the Stream Maintenance Program Manual (*Vegetation Management Plan*) as well as the associated terms and conditions of all programmatic permits and biological opinions.

For 2011, vegetation maintenance will be completed in the locations as shown below. Note that maintenance generally occurs in only a portion of the identified reach, not the entire reach length. An addendum will be sent out in August to supplement this list if any subsequent requests for vegetation management are made for areas not shown below. The submission and approval of such an addendum is specified in the DFG Streambed Alteration Agreement (No. 1600-2009-0399-R3) for the SMP.

Table 1-4. 2011 Vegetation Management Activities

Creek	Vegetation Management Activity			
	Willow Pruning	*Blackberry Hand Removal*	*Blackberry Mowing*	*Exotics Removal*
Zone 1A				
Windsor Creek Subbasin				
Airport 2			✓	
Wikiup 1	✓			
Windsor 1			✓	
Windsor 3	✓			✓
Windsor 4	✓			✓
Santa Rosa Creek Subbasin				
Abramson 1	✓	✓	✓	
Abramson 2	✓	✓	✓	
Brush Creek Tributary 10				✓
Coffey 1			✓	
College 2		✓		
College 3		✓		✓
Ducker 1			✓	
Paulin 3		✓		✓
Paulin 4		✓		✓
Paulin 5		✓		✓
Paulin 6				✓
Peterson 1	✓			
Peterson 2		✓		✓
Piner 4		✓		
Piner 6	✓			
Piner 7	✓			
Russell 1				✓
Russell 2			✓	
Santa Rosa 2	✓		✓	
Santa Rosa 3	✓			
Santa Rosa 5	✓			
Santa Rosa 6	✓			
Sierra Park 1			✓	
Sierra Park 2			✓	
Sierra Park 3		✓	✓	✓
SF Copeland 1	✓		✓	
Spring 1	✓	✓		
Steele 1			✓	✓
Steele 3		✓	✓	
Steele 4		✓		✓
Steele 5	✓		✓	✓
Roseland and Colgan Subbasin				
Colgan 3			✓	
Colgan 4	✓		✓	
Colgan 7		✓		
Roseland 3			✓	
Upper Laguna Subbasin				
Bellevue-Wilfred 1	✓			
Bellevue-Wilfred 2	✓			
Bellevue-Wilfred 3	✓		✓	

Creek	Vegetation Management Activity			
	Willow Pruning	*Blackberry Hand Removal*	*Blackberry Mowing*	*Exotics Removal*
Bellevue-Wilfred 4	✓		✓	
Coleman 1		✓		
Copeland 1			✓	
Copeland 2	✓		✓	
Copeland 3	✓		✓	
Copeland 4	✓		✓	
Crane 2	✓			
Five 1			✓	
Gossage 2	✓		✓	
Gossage 3	✓		✓	
Hinebaugh 1	✓			
Hinebaugh 2	✓		✓	
Hinebaugh 3	✓			
Hinebaugh 4	✓			✓
Hinebaugh 5	✓			✓
Hinebaugh 6	✓			
Hinebaugh 7			✓	
Hunter 3			✓	
Laguna 1	✓			
Laguna 2	✓		✓	
Laguna 3	✓		✓	
Laguna 4	✓			
Laguna 5	✓			
Laguna 6	✓			
South Fork Copeland 1	✓			
Todd 5			✓	
Wilfred Extention1	✓			
Wilfred 1	✓	✓		
Zone 2A- Petaluma Subbasin				
Adobe 1	✓			
Adobe 3	✓		✓	
Corona Creek Trib 1	✓			
Corona 4	✓			
Corona 5	✓			
East Fork McDowell Creek 1				✓
East Washington 2	✓		✓	✓
East Washington 4			✓	
East Washington 5	✓		✓	
Jessie Lane 1		✓	✓	
Lichau 1	✓	✓	✓	
Lichau 2	✓	✓	✓	
Lichau 3	✓	✓	✓	
Lynch 1	✓		✓	
Thompson 1	✓			
Washington 1	✓			
Washington 3	✓			✓
Washington 4	✓			✓
Washington 5	✓			

Creek	Vegetation Management Activity			
	Willow Pruning	*Blackberry Hand Removal*	*Blackberry Mowing*	*Exotics Removal*
Washington 6	✓	✓		✓
Washington 7	✓			
Zone 3A- Sonoma Subbasin				
Fryer2		✓		✓
Zone 6A- Dry Creek				
West Slough 1	✓			
Zone 8A				
Bloomfield1	✓	✓	✓	

Section 2
Project Designs

This section includes project designs and photographs to describe specific maintenance locations and site conditions. The section begins with before-maintenance site photos of each project location. Following these photographs, design drawings for each project are presented. These drawings display the following information for each 2011 project as well as the 2010 and 2009 projects with slight design modifications:

- Longitudinal profiles comparing the existing grade and the project design
- Plan views showing existing conditions, Ordinary High Water Mark (OHWM), and maintenance locations
- Channel cross-sections showing existing conditions and the project design

The project designs have been arranged in the following order:

- Bloomfield Creek, Laguna de Santa Rosa, Windsor Creek: localized designs
- Austin Creek: reach-scale sediment removal design
- Coleman Creek: reach-scale sediment removal design
- Corona Creek: reach-scale sediment removal design
- Fryer Creek: reach-scale sediment removal design
- Gossage Creek: reach-scale sediment removal design
- Laguna de Santa Rosa: reach-scale sediment removal design
- Santa Rosa: reach-scale sediment removal designs
- Todd Channel: reach-scale sediment removal design
- Washington Creek: reach-scale sediment removal design
- Adobe Creek: sediment basin clearing design
- Cook Creek: sediment basin clearing design
- Copeland: sediment basin clearing designs
- Five Creek: sediment basin clearing designs
- Wilfred Channel: sediment basin clearing designs

- Bank Repair Projects –Todd Channel, Fryer Creek

The following 2009 and 2010 permitted project designs have been included due to subsequent refinements since the previous Annual Notification. All other 2009 and 2010 projects to be implemented this year will follow the original designs as included in the 2009 and 2010 Annual Notification.

- Corona Creek (2010 permitted project)
- Todd Channel (2010 permitted project updated design)
- Washington Creek (2009 permitted project)
- 2011 Reservoir Inlet/Outlet Clearing

Section 2
Site-Specific Photographs

2011 Maintenance Activities: Site-Specific Photographs

Localized Sediment Removal

Laguna 5. Downstream of East Cotati Ave below footbridge. Photo taken April 20, 2011.

Laguna 6. Upstream of East Cotati Ave. Localized sediment removal between East Cotati and confluence with Cotati Creek. Photo taken April 20, 2011.

Bloomfield Creek 1: (concrete portion near Stormy's Restaurant). Photo taken April 19, 2011.

Windsor Creek 1: at culverts downstream of Windsor Rd. Photo taken April 19, 2011.

Reach Scale Sediment Removal

Austin 3. Between Boas Dr. and Jack London Dr. Reach Scale Sediment Removal. Photo taken April 21, 2011

Coleman 2. Upstream of Snyder Lane. Reach level sediment removal. Photo taken April 20, 2011

Corona 1. Reach level sediment removal. Photo taken April 19, 2011

Fryer 2&3. Reach level sediment removal. 4th St to MacArthur St. Photo taken April 19, 2011.

Gossage 1. Lowell Ave to the Laguna. Reach level sediment removal. Photo taken April 20, 2011.

Laguna 1. View upstream of 2010 Project. Reach level sediment removal. Photo taken February 2011.

Laguna 1. View upstream of 2010 Project from south side. Reach level sediment removal. Photo taken February 2011.

Santa Rosa 2. Reach level sediment removal. Gravel bar height reduction. Photo taken April 21, 2011

Todd 3&4 Reach level sediment removal. View downstream of Todd Road crossing.

Photo taken April 21, 2011

Todd 3&4 Reach level sediment removal. View upstream of Todd Road crossing.

Photo taken April 21, 2011

Washington 3. Reach level sediment removal. Photo taken April 19, 2011.

Sediment Basins/Instream Basins (focused sediment collection areas)

Adobe 2. Focused Instream Sediment Basin at North McDowell Extension. Photo taken April 19, 2011

Cook 2. Sediment Basin off Petaluma Hill Road and Crane Canyon Road. Photo taken April 21, 2011.

Copeland 4. Instream Sediment Basin at Snyder Lane. Photo Taken April 20, 2011

Copeland 5 Instream Sediment Basin at Snyder Lane. Photo Taken April 20, 2011

Five 1. Instream Sediment Basin at Snyder Lane. Photo Taken April 20, 2011

Wilfred 1. Instream Sediment Basin at Snyder Lane. Photo Taken April 20, 2011

Reservoir Inlet Clearing

Piner Creek Reservoir Inlet. Photo taken April 22, 2011.

Brush Creek Reservoir Inlet. Photo taken April 21, 2011

Santa Rosa Creek Reservoir Inlet. Photo Taken April 21, 2011

Matanzas Creek Reservoir inlet. Photo taken April 21, 2011.

Bank Repairs

Fyer 4. Bank Repair Site. Photo taken April 19, 2011.

Todd Creek Reach 4: 73 ft long bank repair located approximately 160 ft upstream of Hunter Creek confluence.

Section 2
Project Designs

LOCOLIZED SEDIMENT REMOVAL

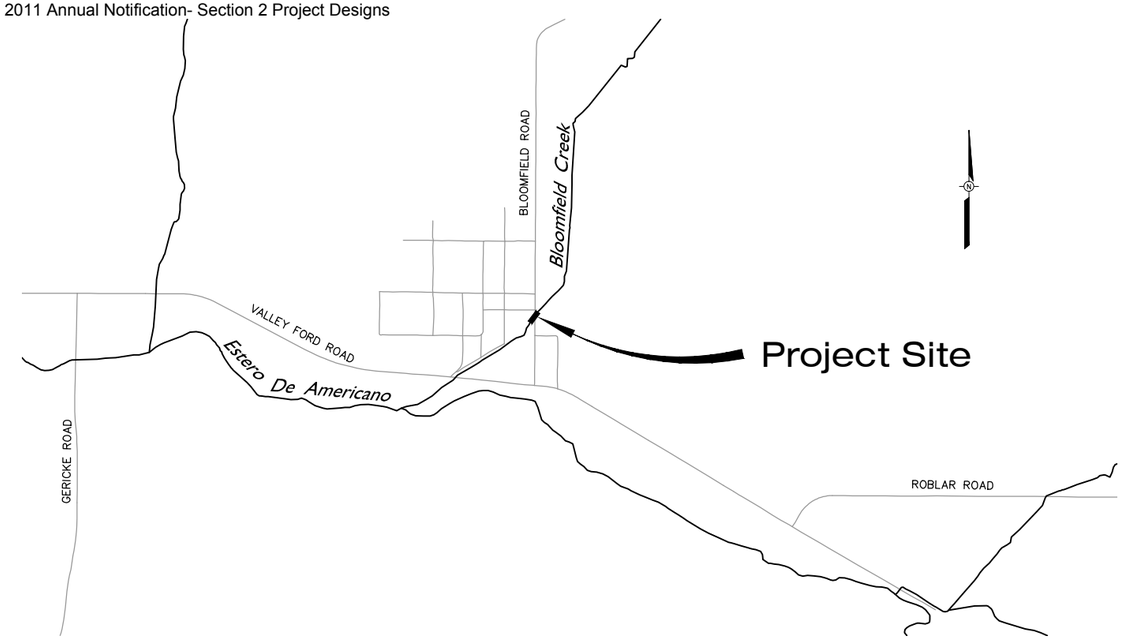
SOUTH COSTAL WATERSHEDS ZONE 8A

BLOOMFIELD CREEK CREEK

LAGUNA MARK WEST ZONE 1A

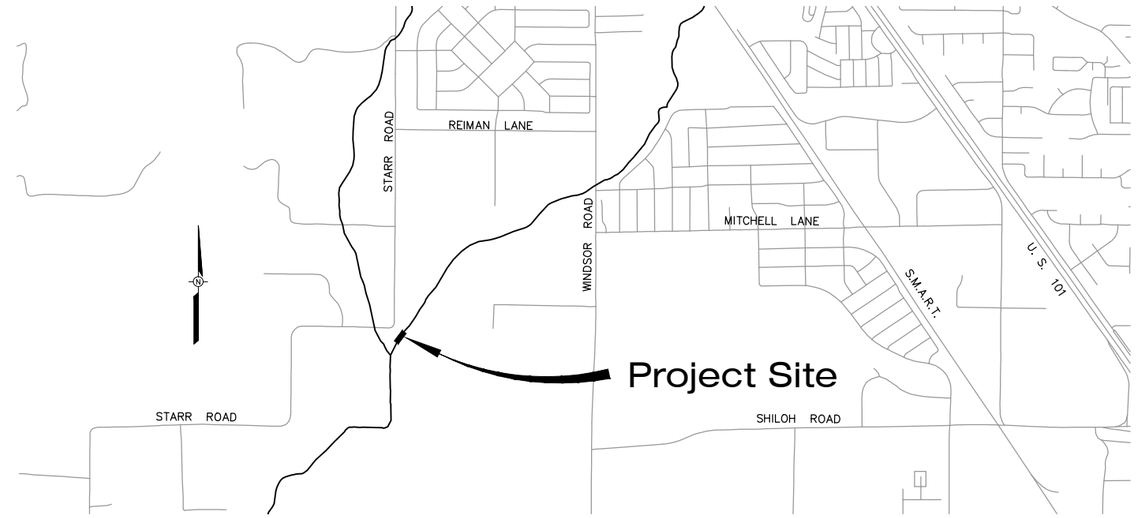
WINDSOR CREEK

LAGUNA DE SANTA ROSA



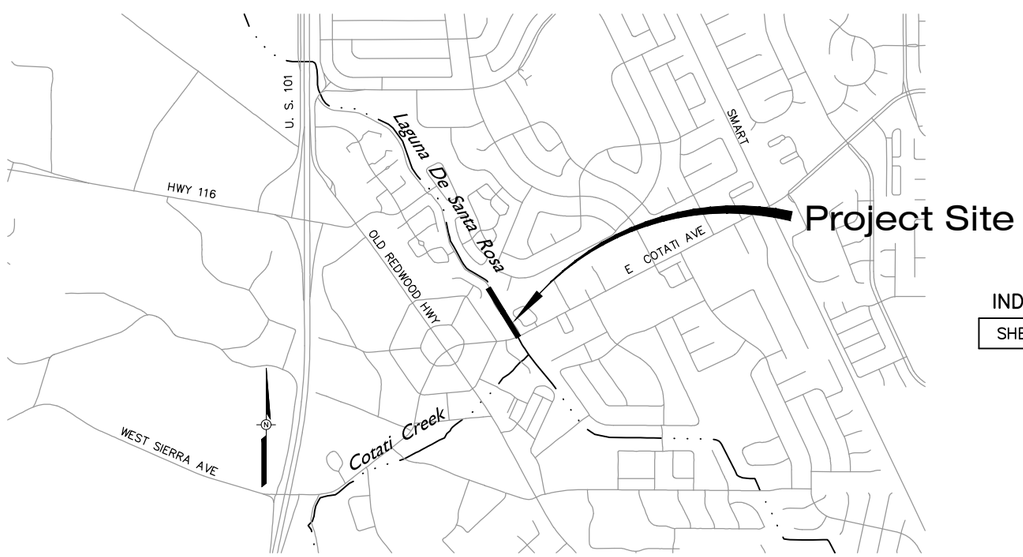
BLOOMFIELD CREEK–VICINITY MAP

NOT TO SCALE



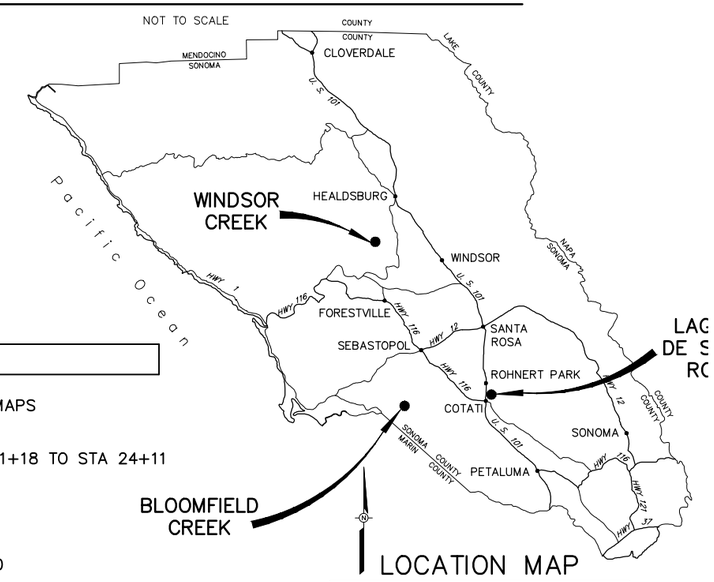
WINDSOR CREEK–VICINITY MAP

NOT TO SCALE



LAGUNA DE SANTA ROSA–VICINITY MAP

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

INDEX TO DRAWINGS:

SHEET NO.	DRAWING NO.	TITLE
1.	G–1	INDEX TO DRAWINGS, LOCATION AND VICINITY MAPS
BLOOMFIELD CREEK:		
2.	C–1	TABLE, PLAN & PROFILE AND SECTIONS STA 21+18 TO STA 24+11
WINDSOR CREEK:		
3.	C–2	TABLE, PLAN & PROFILE AND SECTIONS
LAGUNA DE SANTA ROSA E–LINE:		
4.	C–3	PLAN AND PROFILE STA 40+00 TO STA 46+00
5.	C–4	PLAN AND PROFILE STA 46+00 TO STA 51+50
6.	C–5	TABLE AND SECTIONS

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
15 MAR 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: 2/18/2011
DRAWN: ADF
REVIEWED:

ZONE 1A AND ZONE 8A

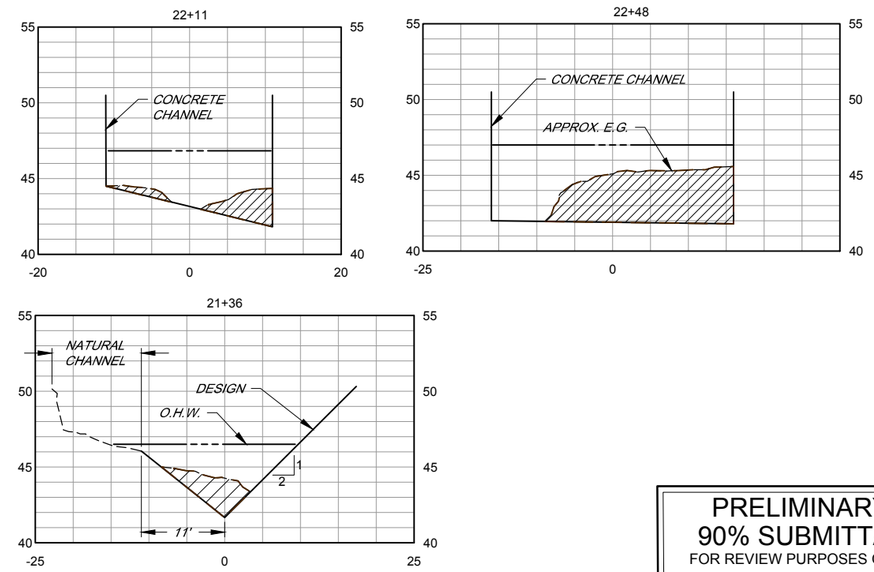
INDEX TO DRAWINGS, LOCATION AND VICINITY MAP

FILE NAME: 2011-BLOOM_WIND_E-LINE
CONTRACT NUMBER:
DRAWING NUMBER: G-1
SHEET 1 O

\\SD-DATA\Proj\flood control\SEDIMENT-REMOVAL\2011-BLOOM_WIND_E-LINE

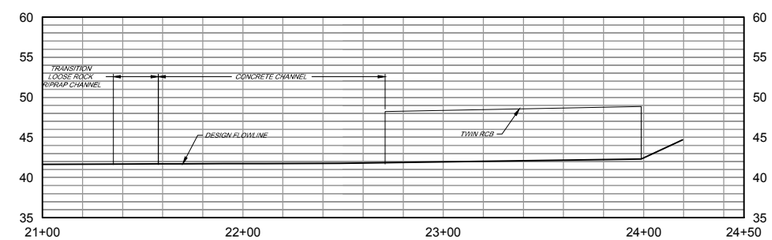
BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH; ADJUST SCALE ACCORDINGLY

PLAN .
SCALE 1" =20'



SECTIONS .
SCALE HORIZ 1" = 10'
VERT 1" = 5'

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
15 MAR 2011



PROFILE .
SCALE HORIZ 1" =20'
VERT 1" = 10'

BLOOMFIELD CREEK						
EXCAVATION						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED CHANNEL.	STATION 21+18 TO STATION 22+70	152	24	3,640 BELOW OHW	1.5	202 BELOW OHW
	STATION 23+66 TO STATION 24+11	45	15	675 BELOW OHW	1.6	40 BELOW OHW

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

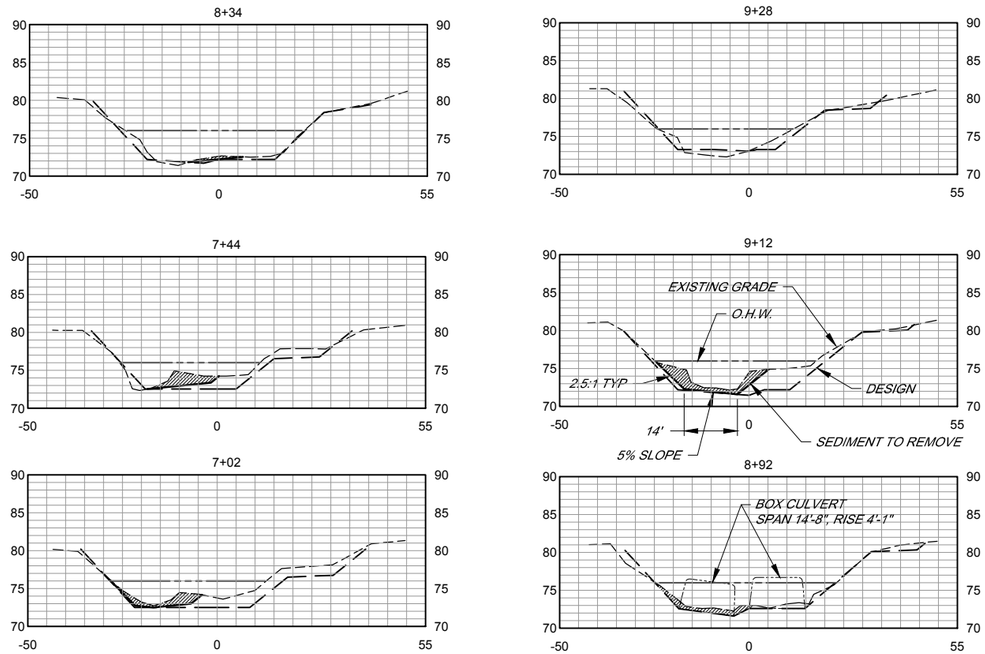
SCALE: AS SHOWN
DATE: 2/18/2011
DRAWN: ----
REVIEWED:

SOUTH COSTAL WATERSHED ZONE 8A - BLOOMFIELD CREEK

TABLE, PLAN & PROFILE AND SECTIONS STA 21+18 TO STA 24+11

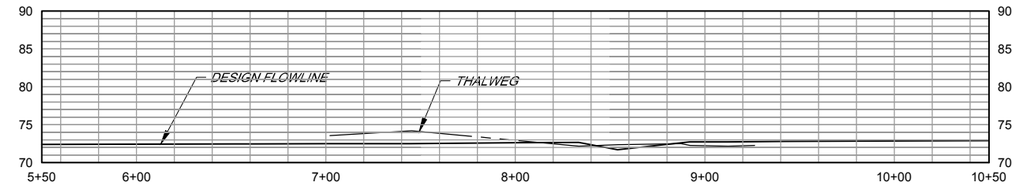
FILE NAME: 2011_BLOOM_C
CONTRACT NUMBER:
DRAWING NUMBER: C-1
SHEET 2 OF 6

\\Sd-data\Proj\flood control\zone 8a\bloomfield\2011-maintenance



SECTIONS

SCALE HORIZ 1" = 20'
VERT 1" = 5'



PROFILE

SCALE HORIZ 1" = 40'
VERT 1" = 10'

PLAN

SCALE 1" = 40'

WINDSOR CREEK						
EXCAVATION						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN CHANNEL	STA 7+02 TO STA 9+28	226	22	BELOW O.H.W. 4,972	0.7	BELOW O.H.W. 129

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
15 MAR 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

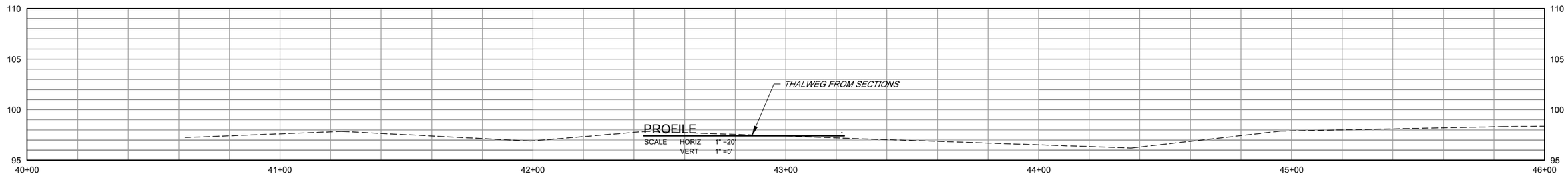
SCALE: AS SHOWN
DATE: 2/18/2011
DRAWN: ----
REVIEWED:

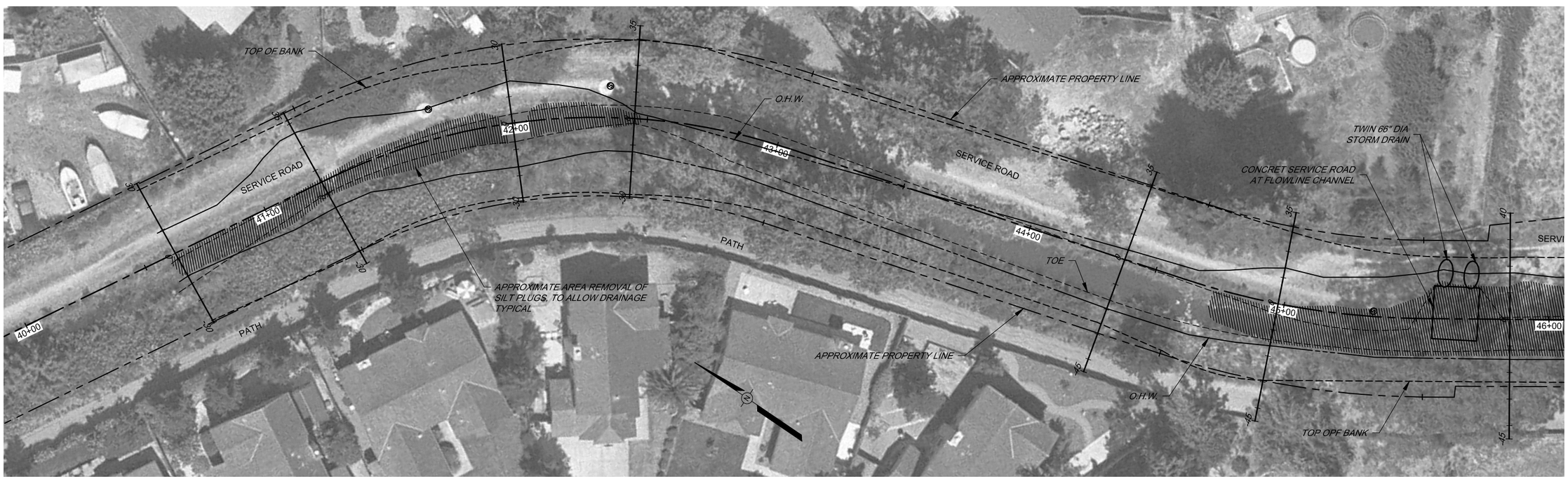
LAGUNA MARK WEST ZONE 1A - WINDSOR CREEK

TABLE, PLAN & PROFILE AND SECTIONS STA 7+02 TO STA 9+28

FILE NAME: 2011_WINDSOR_C
CONTRACT NUMBER:
DRAWING NUMBER: C-2
SHEET 3 OF 6

\\Sd-data\Proj\flood control\zone 1a\windsor-crk\2011-maintenance





PLAN .
SCALE 1" =20'

NOTE:
NO DESIGN INFORMATION FROM COMMERCE BLVD TO UPSTREAM OF EAST COTATI AVENUE

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
80% SUBMITTAL
FOR REVIEW PURPOSES ONLY
15 MAR 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

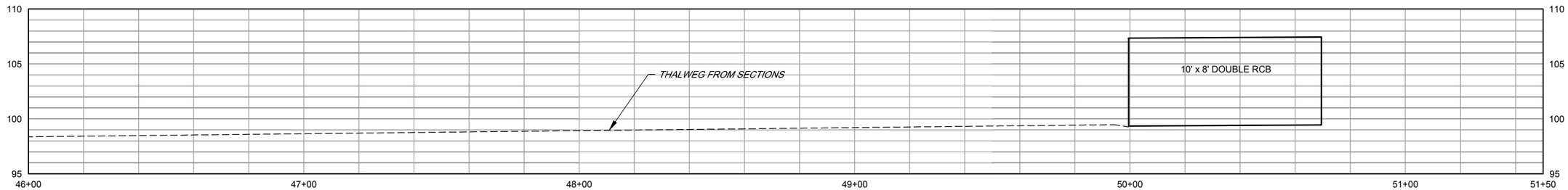
SCALE : AS SHOWN
DATE : 2/18/2011
DRAWN : ----
REVIEWED :

LAGUNA DE SANTA ROSA E-LINE

PLAN AND PROFILE STA 40+00 TO STA 46+00

FILE NAME: 2011_E-LINE_C
CONTRACT NUMBER:
DRAWING NUMBER: C-3
SHEET 4 OF 6

\\Sd-data\Proj\flood control\zone 1a\LAGUNA_E-LINE\2011-MAINTENANCE



PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
15 MAR 2011

PROFILE

SCALE HORIZ 1" =20'
VERT 1" =5'

PLAN

SCALE 1" =20'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NOTE:
NO DESIGN INFORMATION FROM COMMERCE BLVD TO UPSTREAM OF EAST COTATI AVENUE

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

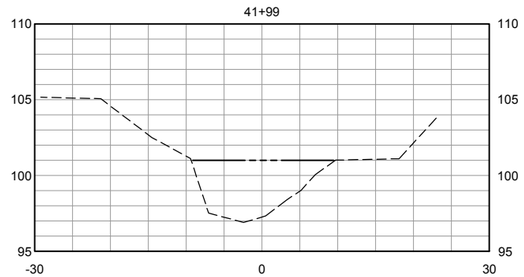
SCALE : AS SHOWN
DATE : 2/18/2011
DRAWN : ----
REVIEWED :

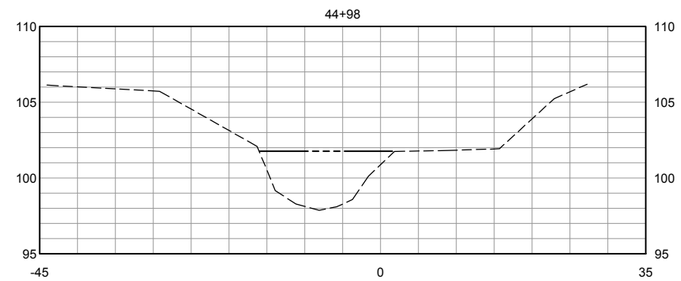
LAGUNA DE SANTA ROSA E-LINE

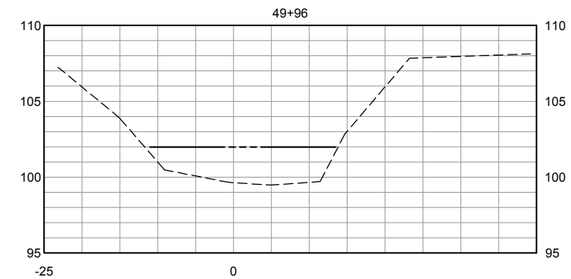
PLAN AND PROFILE STA 46+00 TO STA 51+50

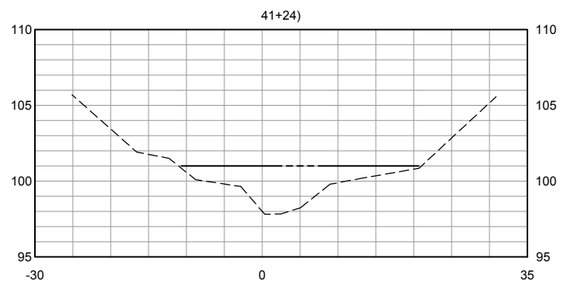
FILE NAME: 2011_E-LINE_C
CONTRACT NUMBER:
DRAWING NUMBER: C-4
SHEET 5 OF 6

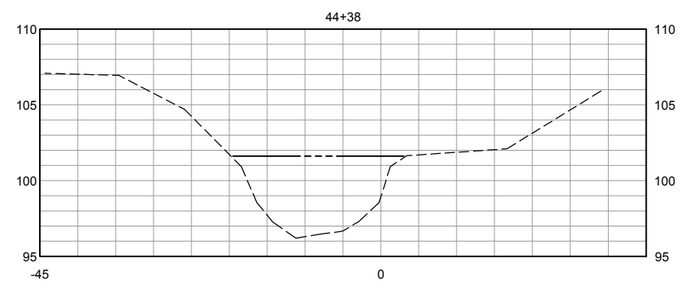
\\Sd-data\Proj\flood control\zone 1a\LA GUNA_E-LINE\2011-MAINTENANCE

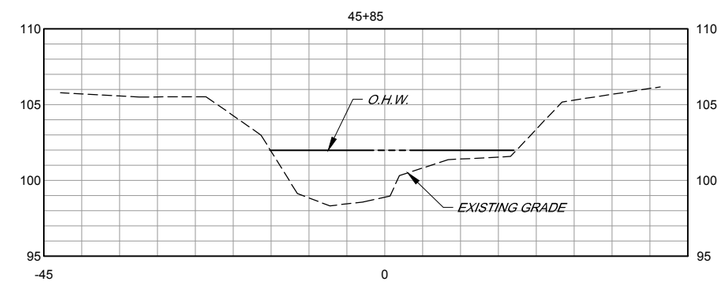


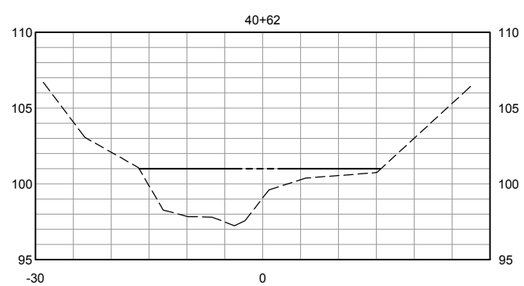


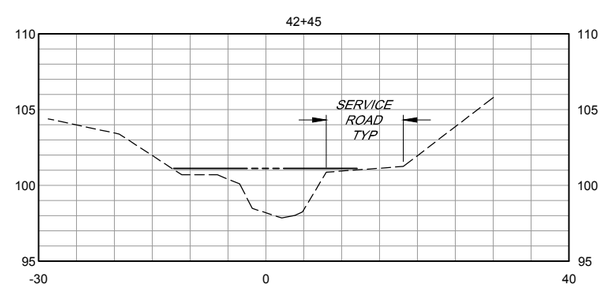












NOTE:
NO DESIGN INFORMATION FROM COMMERCE BLVD TO UPSTREAM OF EAST COTATI AVENUE

SECTIONS .

SCALE HORIZ 1" =10'
VERT 1" = 5'

LAGUNA DE SANTA ROSA E–LINE

WORK TO BE DONE WITHIN CHANNEL

PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED CHANNEL. (APPROXIMATE AREA SHOWN FOR REMOVAL SILT PLUGS AND VEGETATION TO ALLOW DRAINAGE)	STATION 40+60 TO STATION 42+48	188	11	2,068 BELOW OHW	0.5	38 BELOW OHW
	STA 44+72 TO STA 46+25	153	15	2,295 BELOW OHW	1.4	120 BELOW OHW
	STA 49+50 STA 51+50	100	6	600 BELOW OHW	2.3	50 BELOW OHW

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
15 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

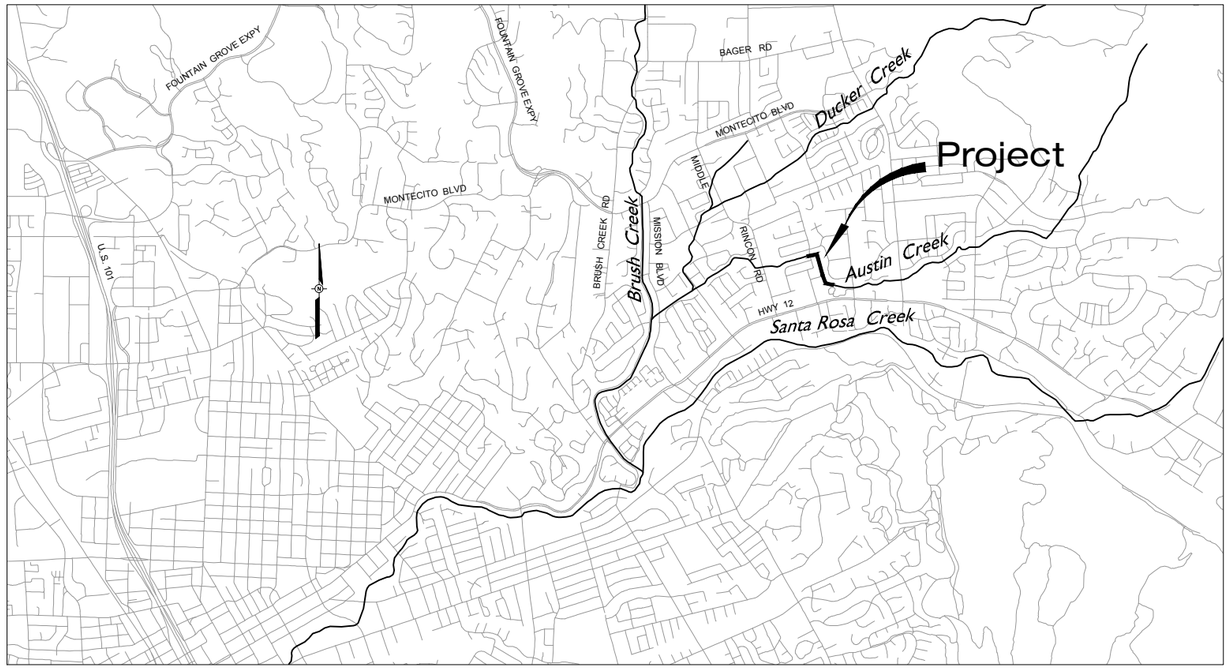
SCALE : AS SHOWN
DATE : 2/18/2011
DRAWN : ----
REVIEWED :

LAGUNA DE SANTA ROSA E-LINE

TABLE AND SECTIONS

FILE NAME: 2011_E-LINE_C
CONTRACT NUMBER:
DRAWING NUMBER: C-5
SHEET 6 OF 6

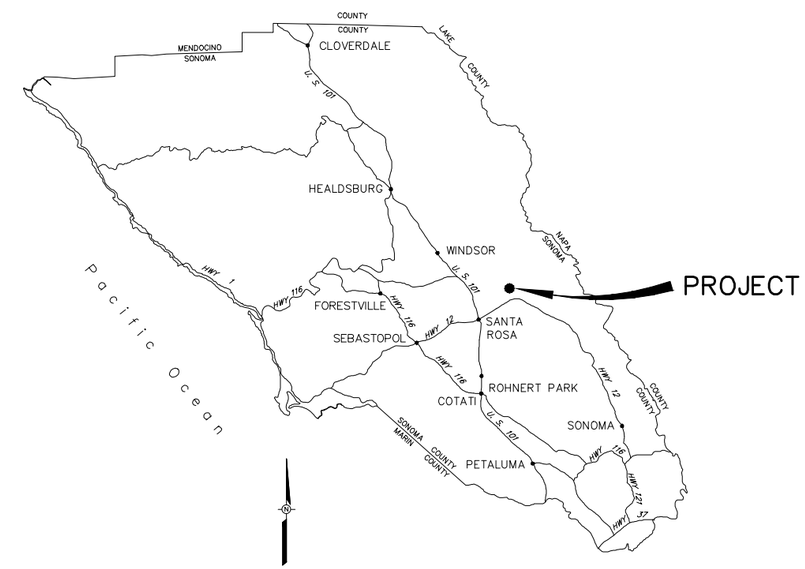
\\SD-DATA\Proj\flood control\zone 1a\LAGUNA_E-LINE\2011-MAINTENANCE



VICINITY MAPS

NOT TO SCALE

AUSTIN CREEK SEDIMENT REMOVAL



LOCATION MAP

NOT TO SCALE

AUSTIN CREEK						
EXCAVATION						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED CHANNEL.	STATION 104+75 TO STATION 115+50	1,075	11.5	443 ABOVE OHW 11,919 BELOW OHW TOTAL = 12,362	1.6	27 ABOVE OHW 705 BELOW OHW TOTAL = 732

INDEX TO DRAWINGS:

SHEET NO.	DRAWING NO.	TITLE
1.	G–1	LOCATION AND VICINITY MAPS
2.	C–1	PLAN, PROFILE STA 103+00 TO STA 113+00
3.	C–2	PLAN AND SECTIONS STA 113+00 TO STA 118+00
4.	C–3	CROSS SECTIONS

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH, ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
9 MAR 2011

NO.	DATE	REVISION	BY

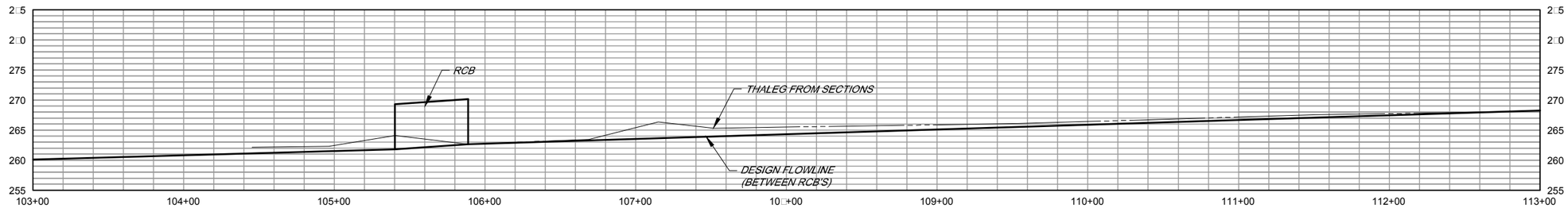
SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: 2 MAR 2011
DRAWN: ADF
REVIEWED:

AUSTIN CREEK ZONE 1A
INDEX TO DRAWINGS, TABLE
LOCATION & VACINITY MAPS

FILE NAME: 2011-AUSTIN_G
CONTRACT NUMBER:
DRAWING NUMBER: G-1
SHEET 1 OF 4

\\Sd-data\Proj\flood control\zone 1a\AUSTIN\2011-AUSTIN_G



PROFILE

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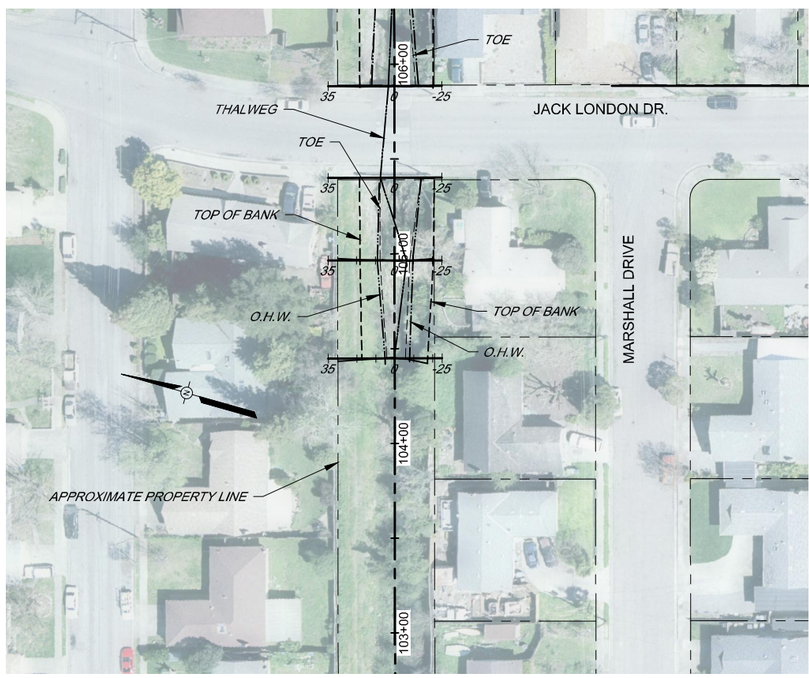
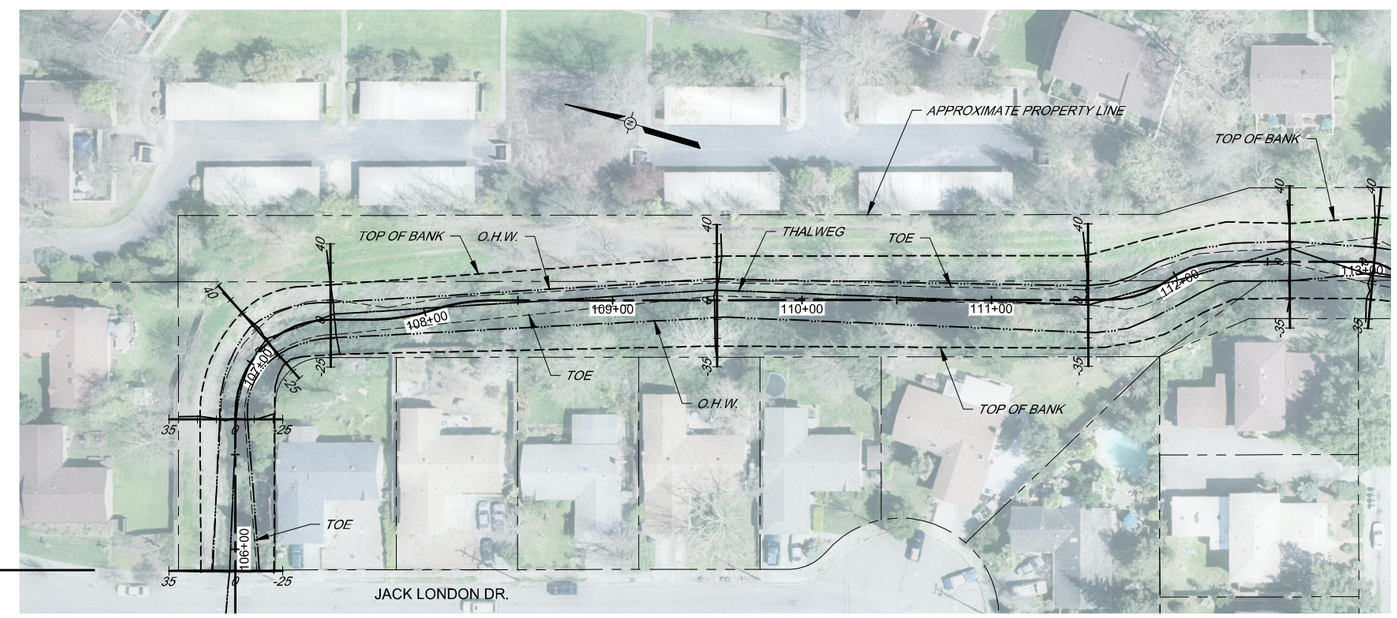
VERT 1" = 10



PLAN

SCALE 1" = 40



PLAN

SCALE 1" = 40

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH, ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
MAR 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

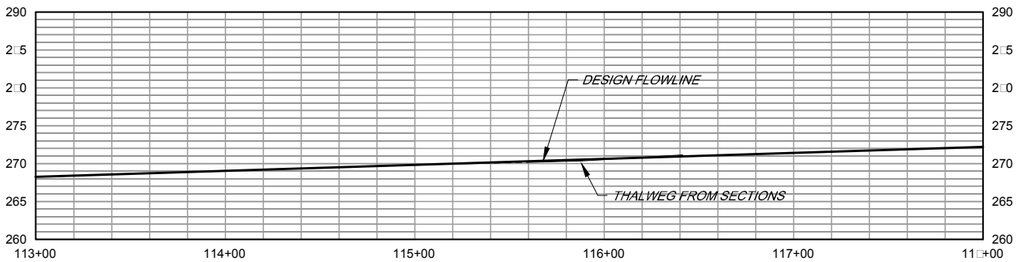
SCALE: AS SHOWN
DATE: 2 MAR 2011
DRAWN: ADF
REVIEWED:

AUSTIN CREEK ZONE 1A

PLAN AND PROFILE STA 103+00TO STA 113+00

FILE NAME: 2011-AUSTIN_C1-
CONTRACT NUMBER:
DRAWING NUMBER: C-1
SHEET 2 OF 4

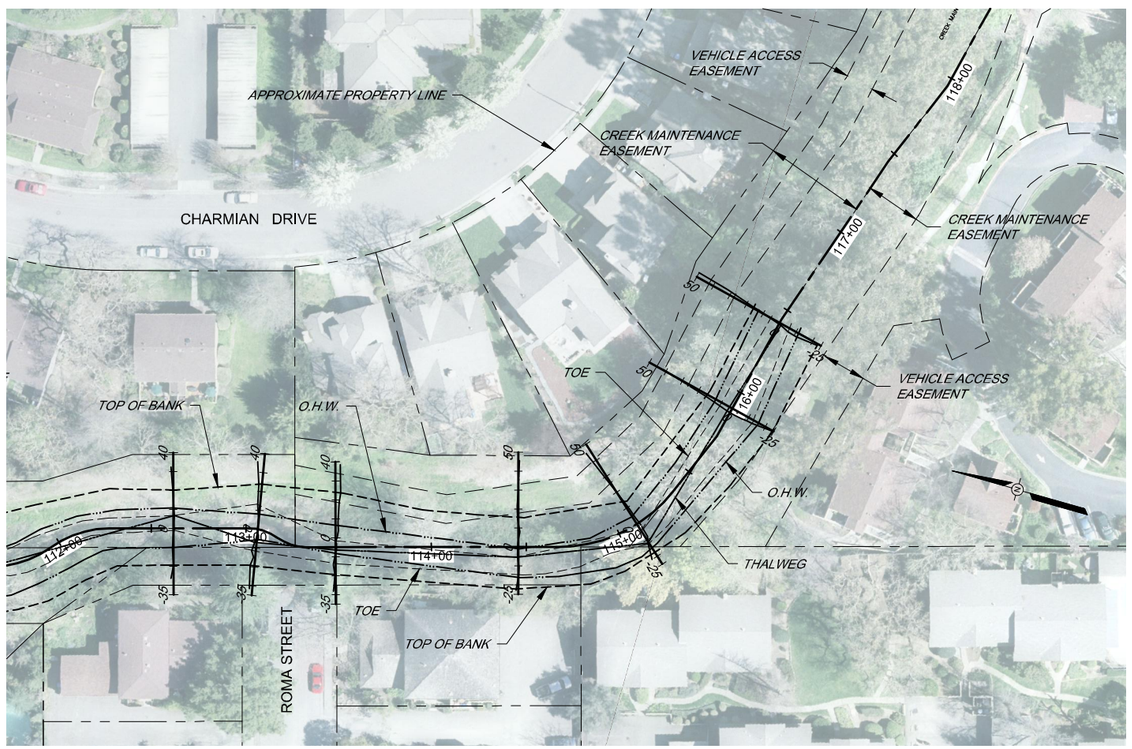
SD-DATA Pr: d 1 : AUSTIN



PROFILE

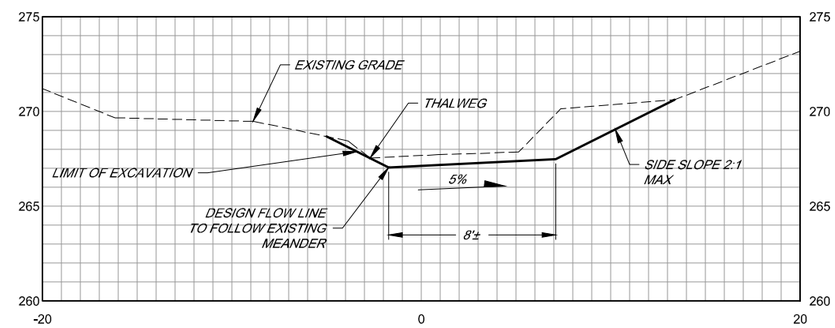
SCALE HORIZ 1" = 40

VERT 1" = 10



PLAN

SCALE 1" = 40



TYPICAL SECTION

NOT TO SCALE

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN | DATE: 2 MAR 2011

DRAWN: ADF

REVIEWED:

AUSTIN CREEK ZONE 1A

PLAN AND PROFILE STA 113+00 TO STA 11+00
AND TYPICAL CROSS SECTION

FILE NAME: 2011-AUSTIN_C1-

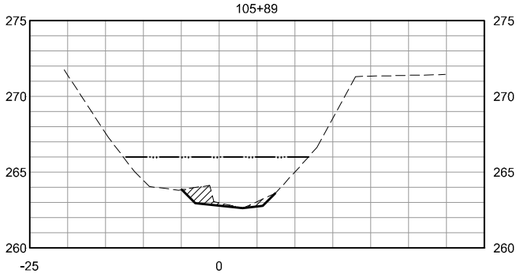
CONTRACT NUMBER:

DRAWING NUMBER: C-2

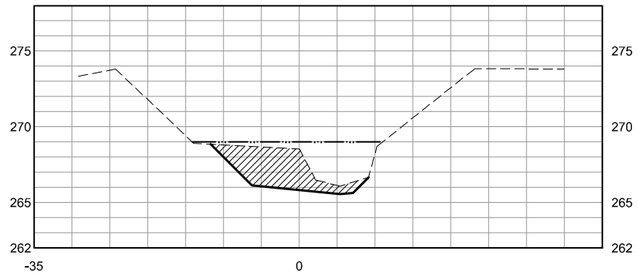
SHEET 3 OF 4

SD-DATA Pr d 1 : AUSTIN

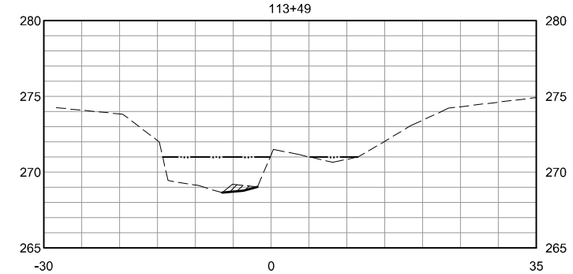
105+89



109+55



113+49



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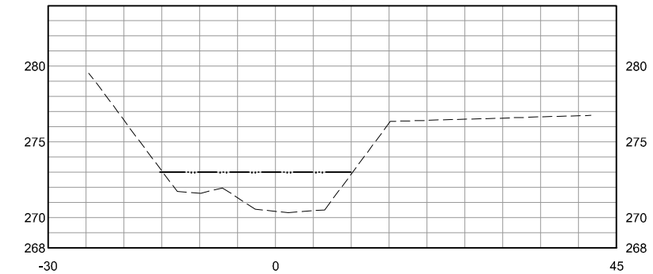

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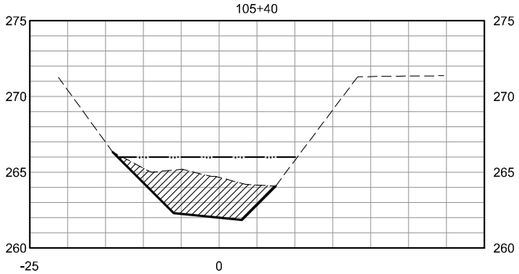

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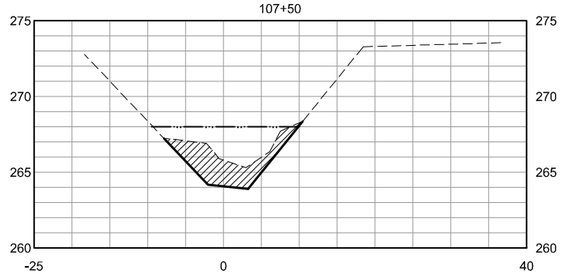

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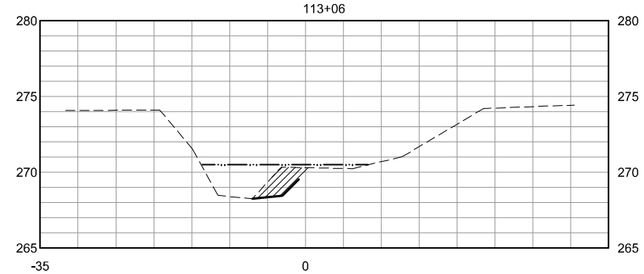

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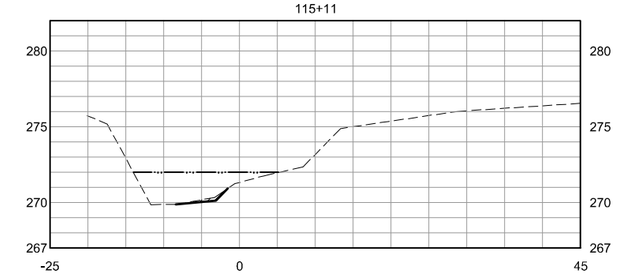

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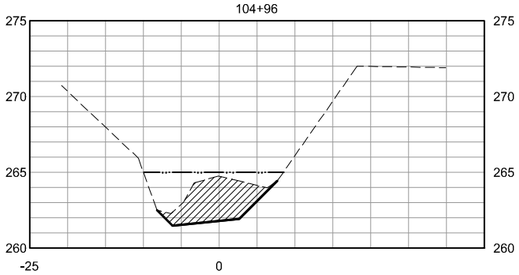
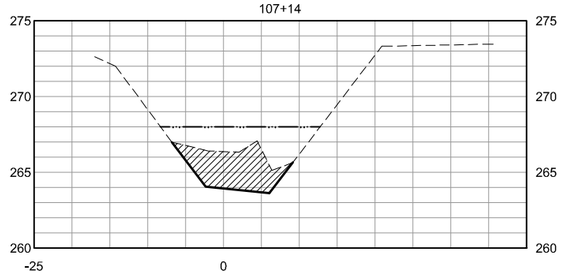
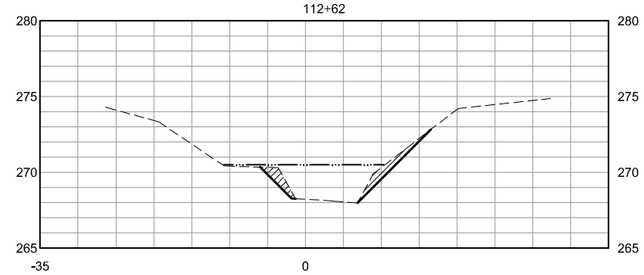


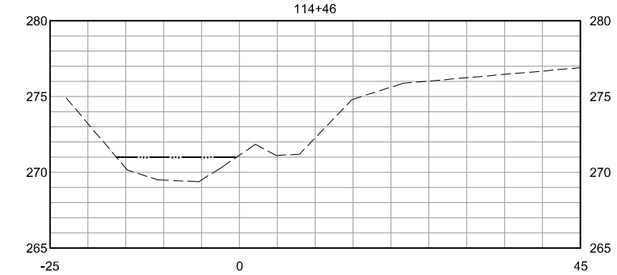
107+14



112+62



114+46



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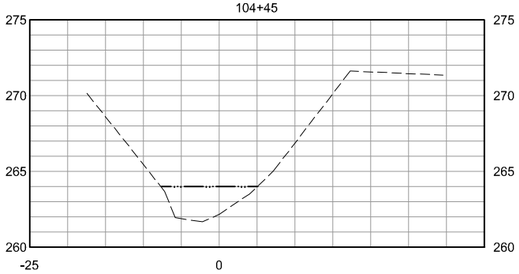
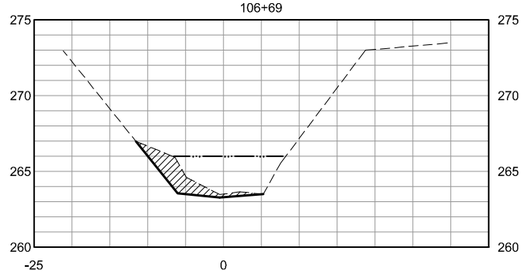


106+69



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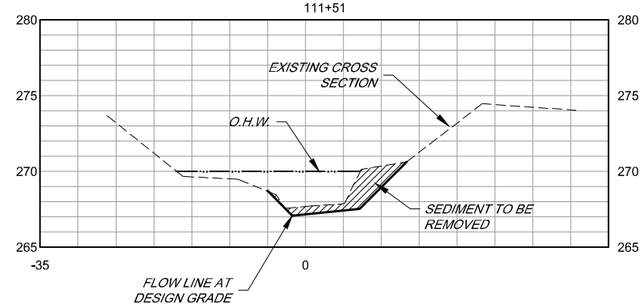


SECTIONS .

SCALE HORIZ 1" = 10
VERT 1" = 5

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
MAR 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: 2 MAR 2011
DRAWN: ADF
REVIEWED:

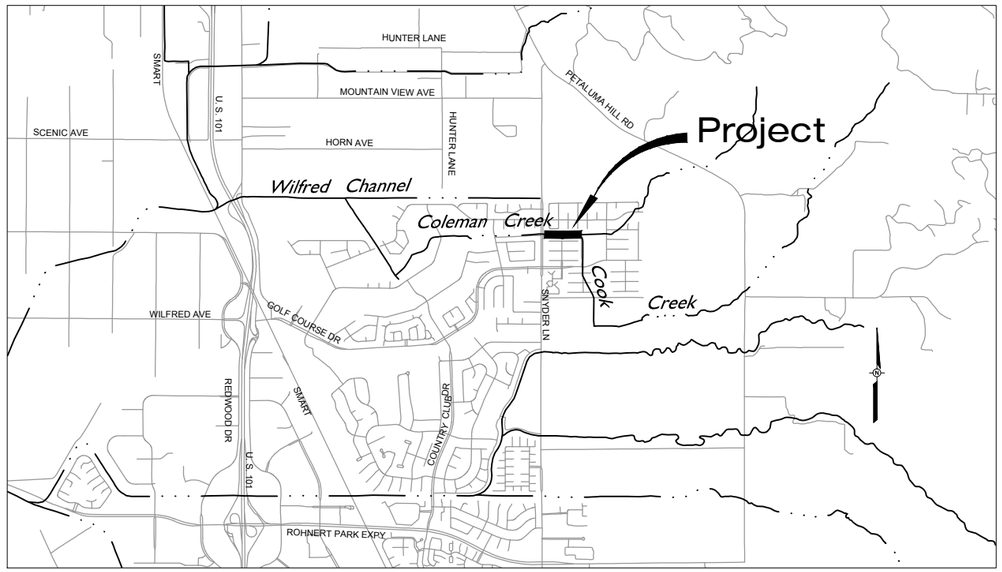
AUSTIN CREEK ZONE 1A

CROSS SECTIONS

FILE NAME: 2011-AUSTIN_C1-
CONTRACT NUMBER:
DRAWING NUMBER: C-3
SHEET 4 OF 4

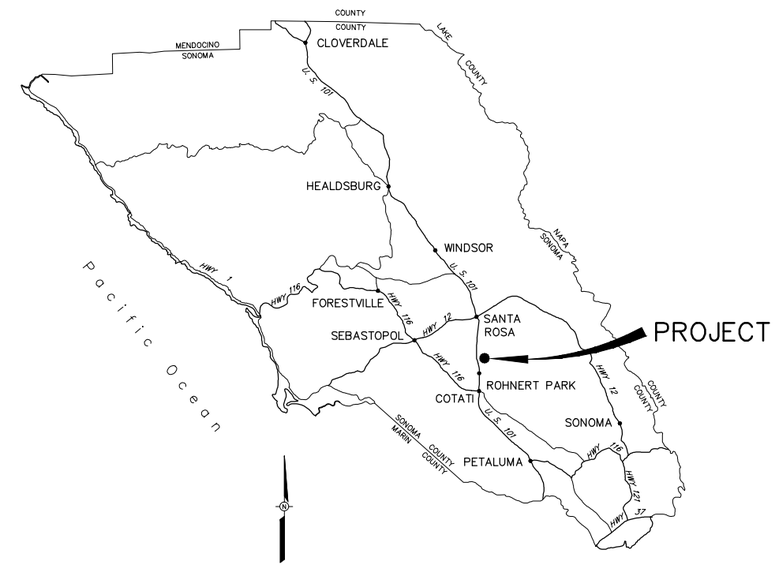
SD-DATA P: d 1 AUSTIN

COLEMAN CHANNEL SEDIMENT REMOVAL



VICINITY MAP

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

COLEMAN CREEK						
EXVAVATION						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED CHANNEL.	STATION 43+97 TO STATION 53+00	903	19'	4,472 ABOVE OHW 12,528 BELOW OHW 17,300 TOTAL	1.3	102 ABOVE OHW 731 BELOW OHW 833 TOTAL

INDEX TO DRAWINGS:

SHEET NO.	DRAWING NO.	TITLE
1.	G-1	INDEX TO DRAWINGS, TABLE, LOCATION & VICINITY MAPS
2.	C-1	PLAN, PROFILE STA 43+00 TO STA 49+00
3.	C-2	PLAN AND SECTIONS STA 49+00 TO STA 53+00
4.	C-3	CROSS SECTIONS

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
9 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

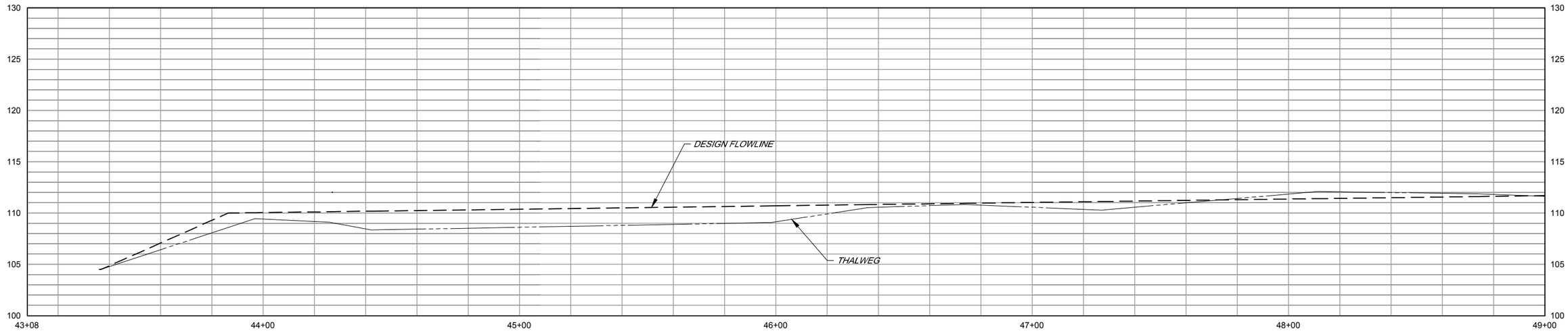
SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: 1/18/2011
DRAWN: ADF
REVIEWED:

COLEMAN CREEK
INDEX TO DRAWINGS, TABLE, VICINITY & LOCATION MAPS

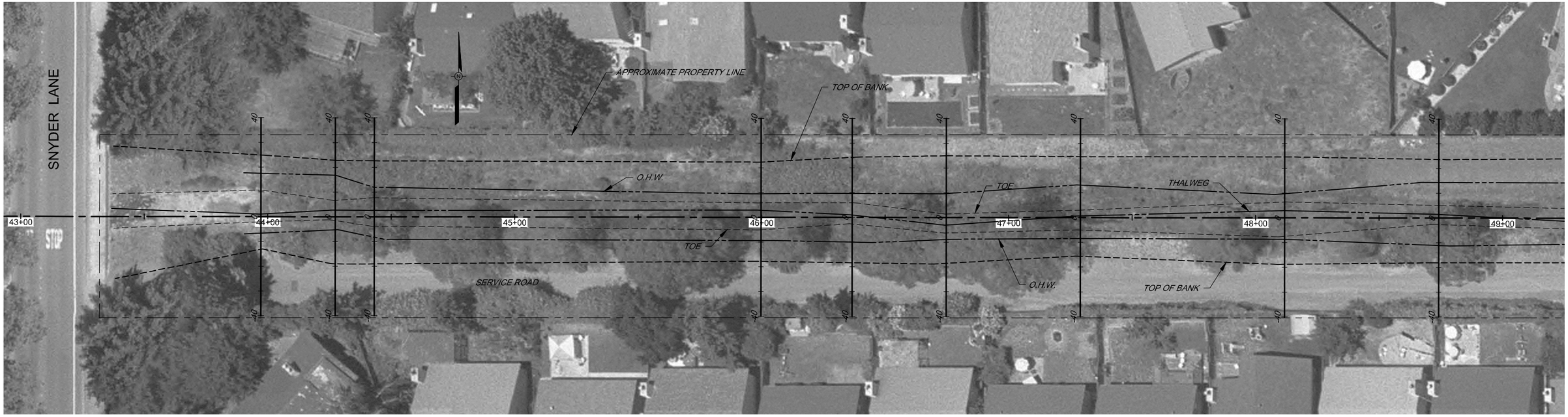
FILE NAME: colman-2011_G
CONTRACT NUMBER:
DRAWING NUMBER: G-1
SHEET 1 OF 5

\\Sd-data\Proj\flood control\zone 1a\COLEMAN\2011_MAINTENANCE\colman-2011_G



PROFILE

SCALE HORIZ 1" =20'
VERT 1" =5'



PLAN

SCALE 1" =20'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
9 MAR 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

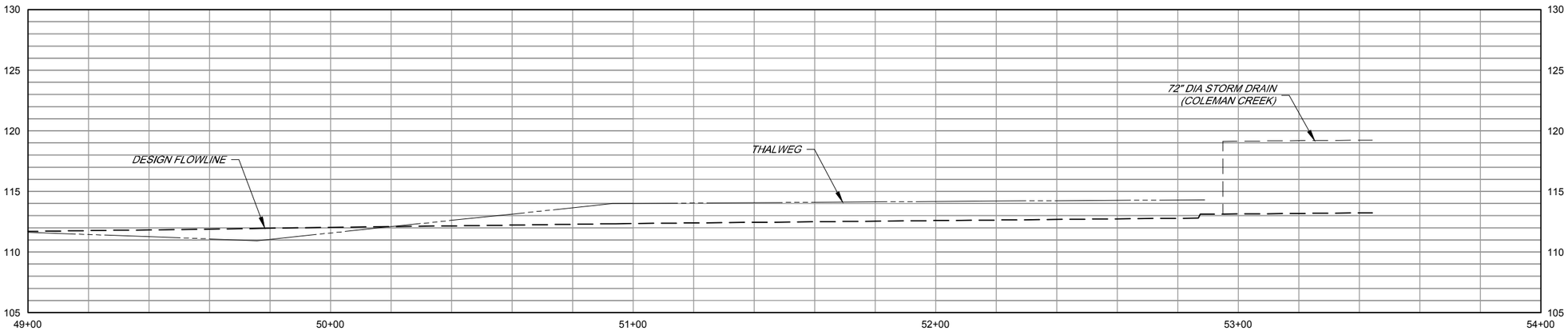
SCALE : AS SHOWN
DATE : 1/18/2011
DRAWN : ----
REVIEWED :

COLEMAN CREEK

PLAN AND PROFILE STA 43+00 TO STA 49+00

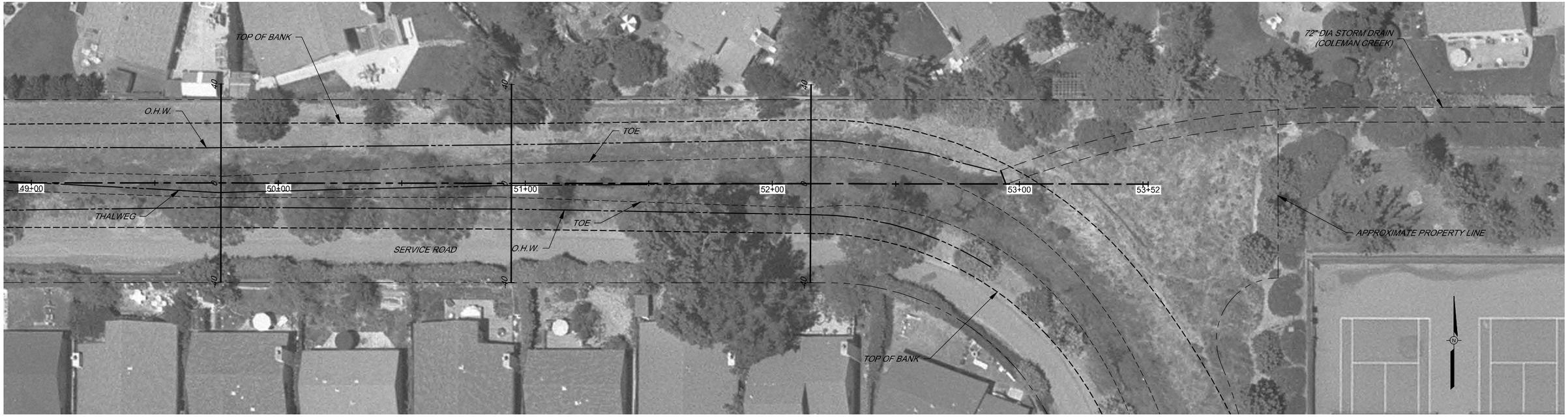
FILE NAME: COLEMAN_C
CONTRACT NUMBER:
DRAWING NUMBER: C-1
SHEET 2 OF 5

\\Sd-data\Prog\flood control\zone 1a\COLEMAN\2011_MAINTENANCE



PROFILE

SCALE HORIZ 1" =20'
VERT 1" =5'



PLAN

SCALE 1" =20'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
9 MAR 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

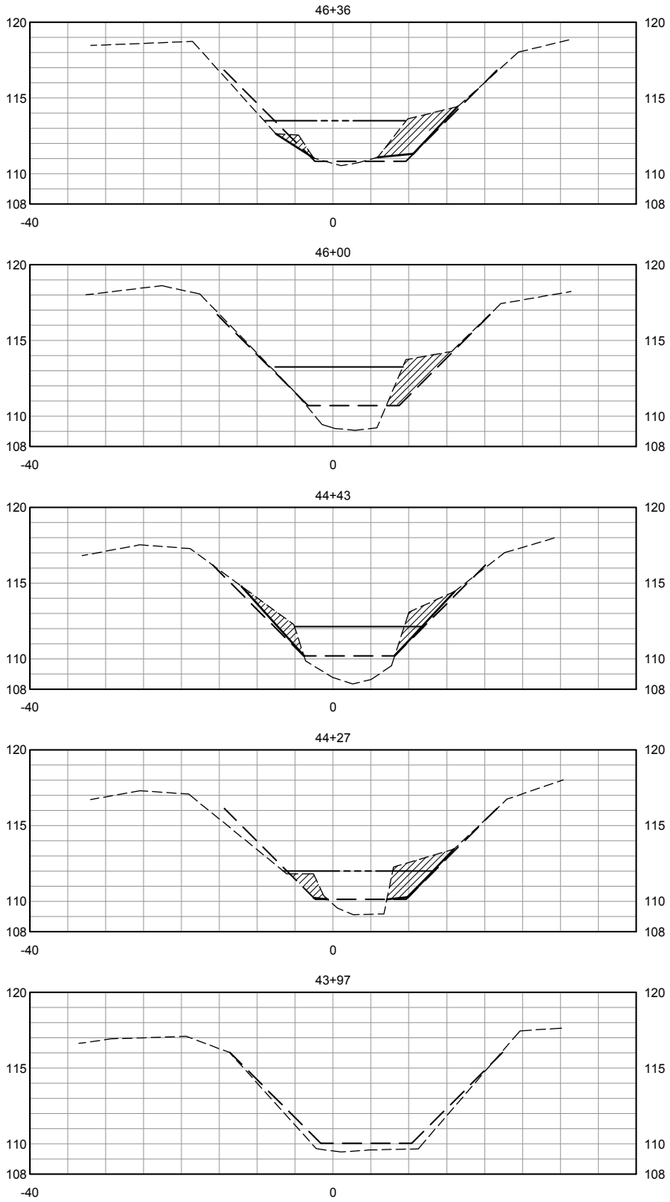
SCALE : AS SHOWN
DATE : 1/18/2011
DRAWN : ----
REVIEWED :

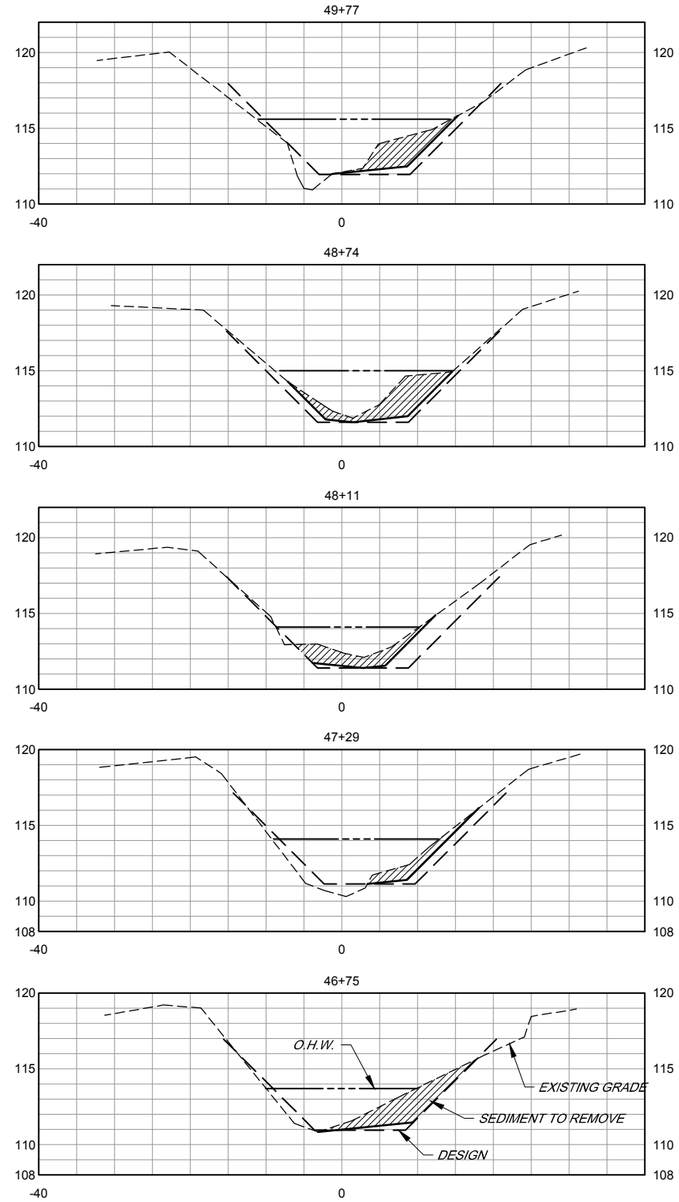
COLEMAN CREEK

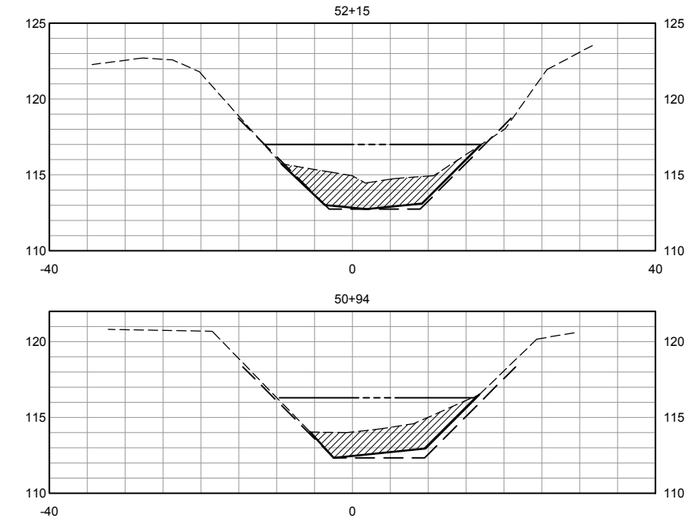
PLAN AND PROFILE STA 49+00 TO STA 53+00

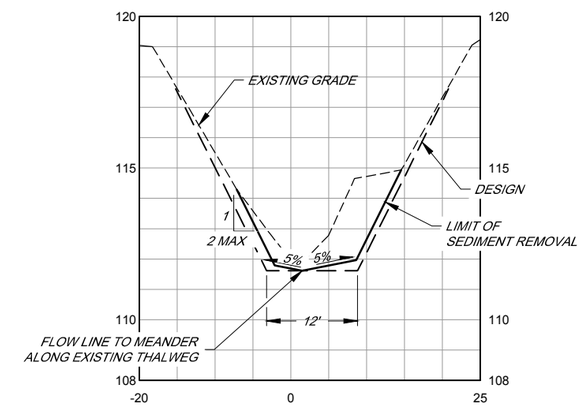
FILE NAME: COLEMAN_C
CONTRACT NUMBER:
DRAWING NUMBER: C-2
SHEET 3 OF 5

\\Sd-data\Proj\flood control\zone 1a\COLEMAN\2011_MAINTENANCE









TYPICAL SECTION .

NOT TO SCALE

SECTIONS .

SCALE HORIZ 1" =10'
VERT 1" =5'

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
9 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE : AS SHOWN
DATE : 1/18/2011
DRAWN : ----
REVIEWED :

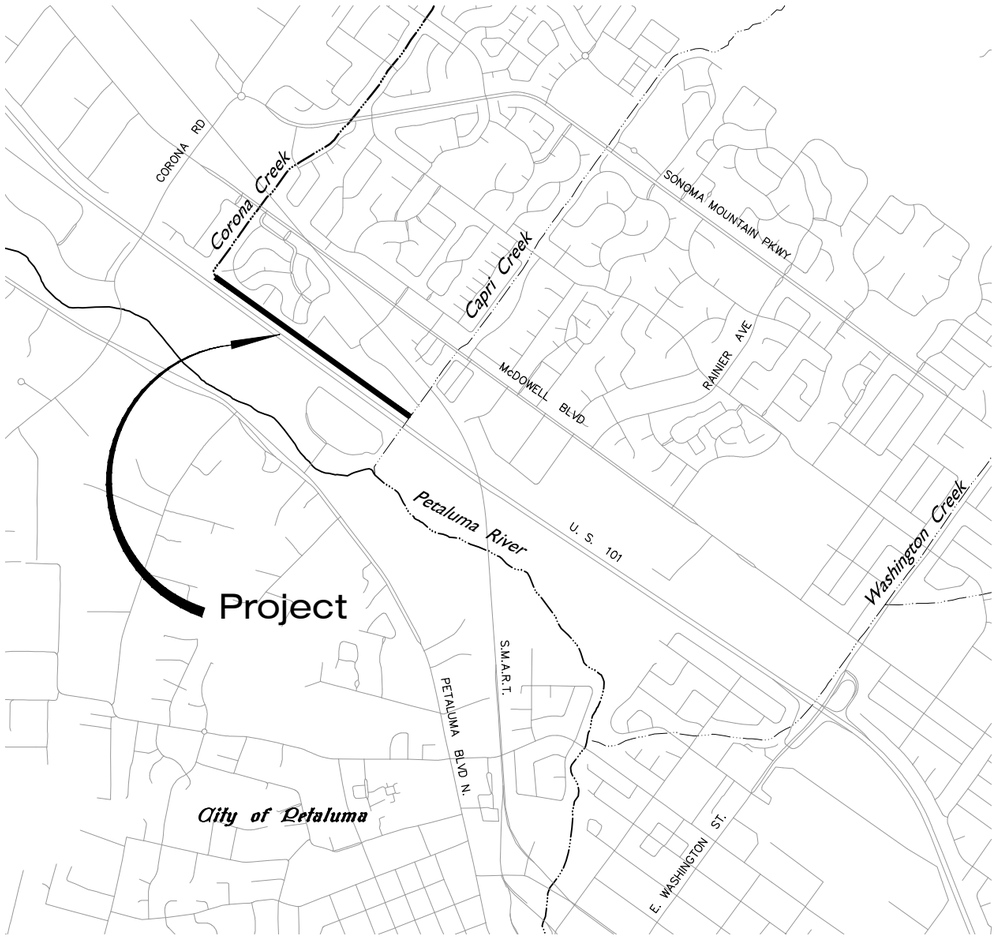
COLEMAN CREEK

CROSS SECTIONS

FILE NAME: COLEMAN_C
CONTRACT NUMBER:
DRAWING NUMBER: C-3
SHEET 4 OF 5

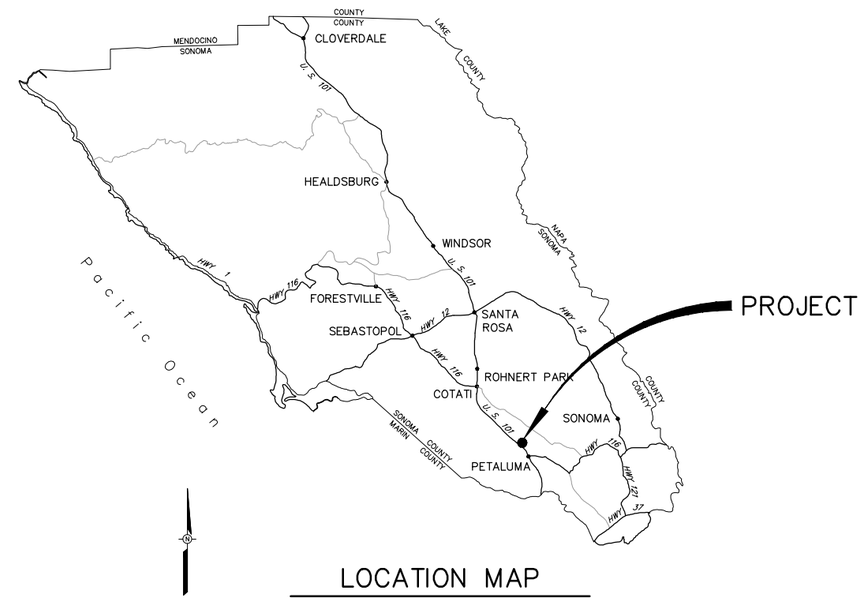
\\Sv-data\Proj\flood control\zone 1a\COLEMAN\2011_MAINTENANCE

CORONA CREEK SEDIMENT REMOVAL



VICINITY MAP

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

CORONA CREEK						
EXCAVATION (BELOW OHW)						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED CHANNEL.	STA 3+30 TO STA 20+90	1760	10	17600	0.5	326
	STA 20+90 TO STA 32+00	500 SEE NOTE	10	5000	0.5	93
TOTAL		2260		22600		421

NOTE:
SEDIMENT REMOVAL AT VARIOUS LOCATIONS STA 20+90 TO STA 32+00 TOTALING 500 LINEAR FEET.

INDEX TO DRAWINGS:

SHEET NO.	DRAWING NO.	TITLE
1.	G–1	INDEX TO DRAWINGS, LOCATION AND VICINITY MAPS
2.	C–1	PLAN AND PROFILE STA 0+00 TO STA 6+00
3.	C–2	PLAN AND PROFILE STA 6+00 TO STA 12+00
4.	C–3	PLAN AND PROFILE STA 12+00 TO STA 18+00
5.	C–4	PLAN AND PROFILE STA 18+00 TO STA 24+00
6.	C–5	PLAN AND PROFILE STA 24+00 TO STA 30+00
7	C–6	PLAN AND PROFILE STA 30+00 TO STA 33+00
8.	C–7	SECTIONS

90% SUBMITTAL

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

\\Sd-data\Proj\flood control\zone 2a\Corona\CORONA_G-1

NO.	DATE	REVISION	BY

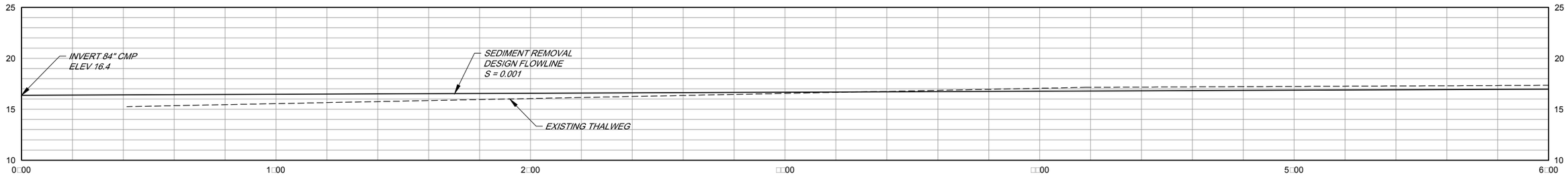
PRELIMINARY
SUBJECT TO REVISION

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE : 24–Feb–10
DRAWN : A. FACENDINI
REVIEWED :

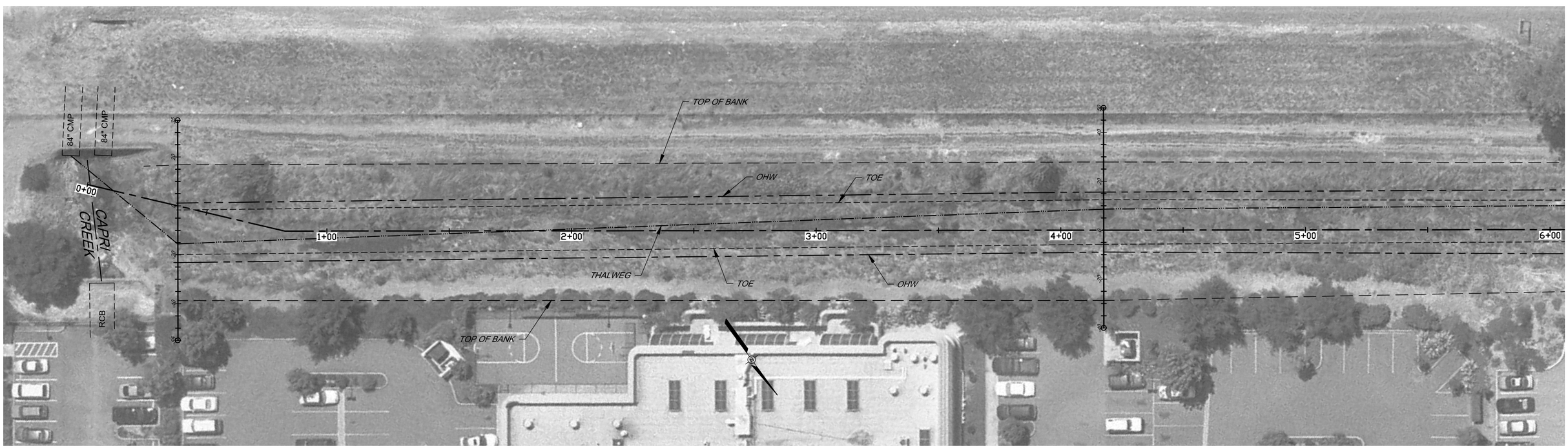
PETALUMA BASIN ZONE 2A
CORONA CREEK SEDIMENT REMOVAL
INDEX TO DRAWINGS, LOCATION AND VICINITY MAPS

FILE NAME: CORONA_G–1.dwg
CONTRACT NUMBER:
DRAWING NUMBER: G–1
SHEET 1 OF 8



PROFILE

SCALE: HORIZ 1" = 20'
VERT 1"= 5'



PLAN

SCALE: 1"= 20'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

90% SUBMITTAL

NO.	DATE	REVISION	BY

PRELIMINARY
SUBJECT TO REVISION

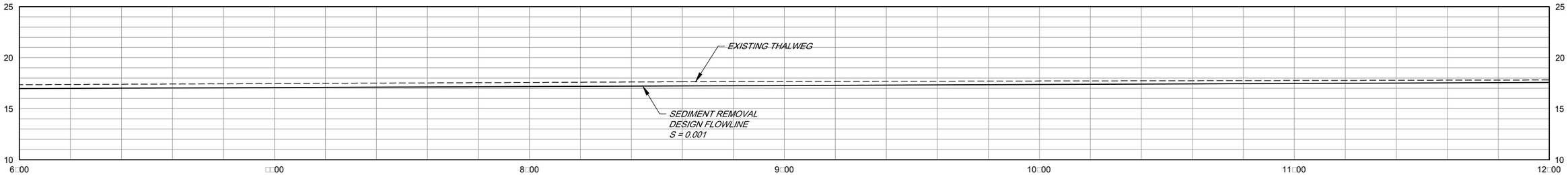
SONOMA COUNTY WATER AGENCY

SCALE:	AS SHOWN
DATE :	12/2/09
DRAWN :	ADF
REVIEWED :	

PETALUMA BASIN ZONE 2A
CORONA CREEK SEDIMENT REMOVAL
PLAN & PROFILE STA 0+00 TO STA 6+00

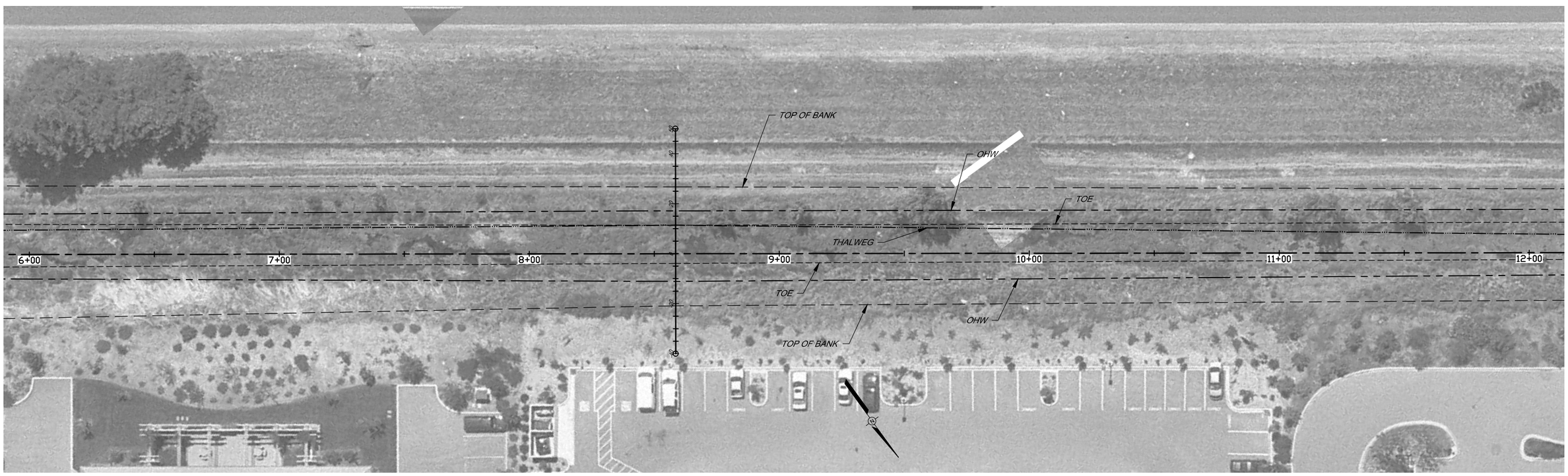
FILE NAME: 2010_Corona.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-1
SHEET 2 OF 8

\\Sd-data\Proj\flood control\zone 2a\Corona\2010_Corona



PROFILE

SCALE: HORIZ 1" = 20'
VERT 1"= 5'



PLAN

SCALE: 1"= 20'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

90% SUBMITTAL

NO.	DATE	REVISION	BY

PRELIMINARY
SUBJECT TO REVISION

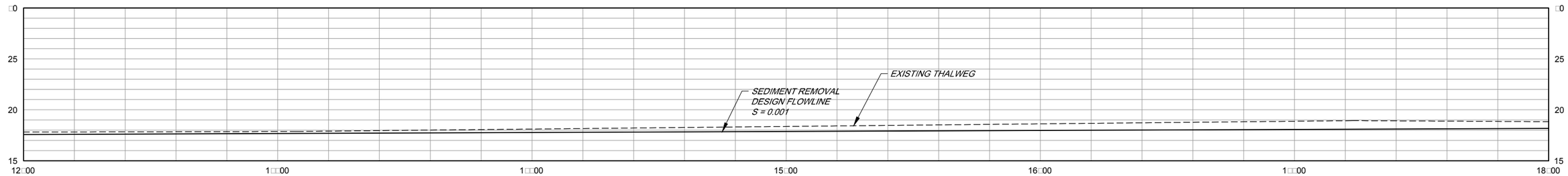
SONOMA COUNTY WATER AGENCY

SCALE:	AS SHOWN
DATE :	12/2/09
DRAWN :	ADF
REVIEWED :	

PETALUMA BASIN ZONE 2A
CORONA CREEK SEDIMENT REMOVAL
PLAN & PROFILE STA 6+00 TO STA 12+00

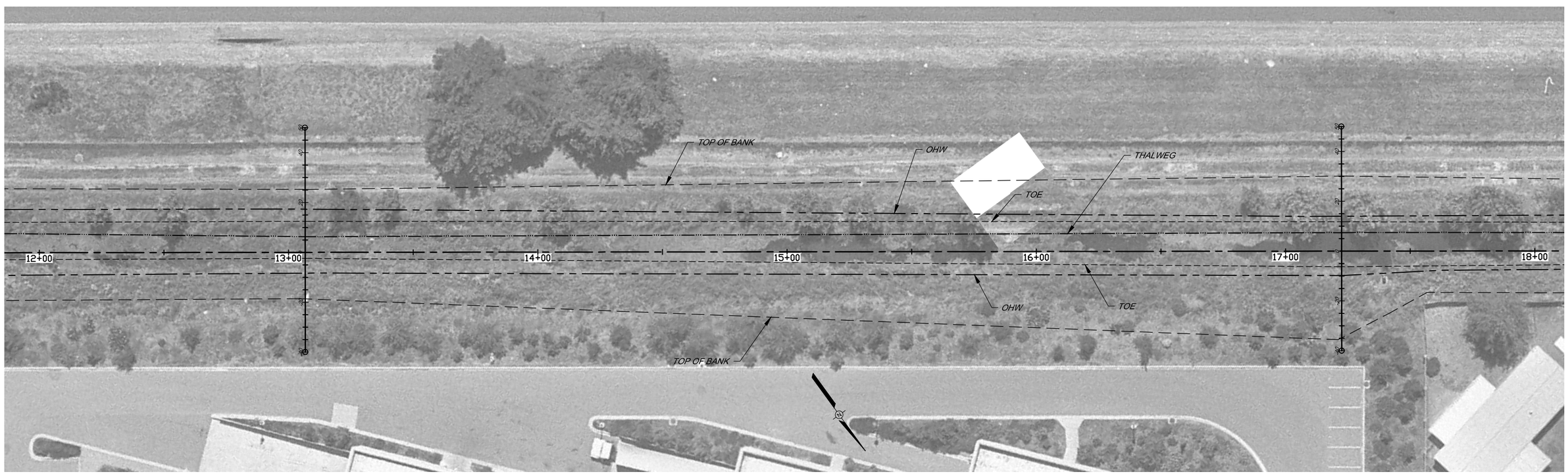
FILE NAME: 2010_Corona.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-2
SHEET 3 OF 8

\\Sd-data\Proj\Flood control\zone 2a\Corona\2010_Corona



PROFILE

SCALE: HORIZ 1" = 20'
VERT 1"= 5'



PLAN

SCALE: 1"= 20'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

90% SUBMITTAL

NO.	DATE	REVISION	BY

PRELIMINARY
SUBJECT TO REVISION

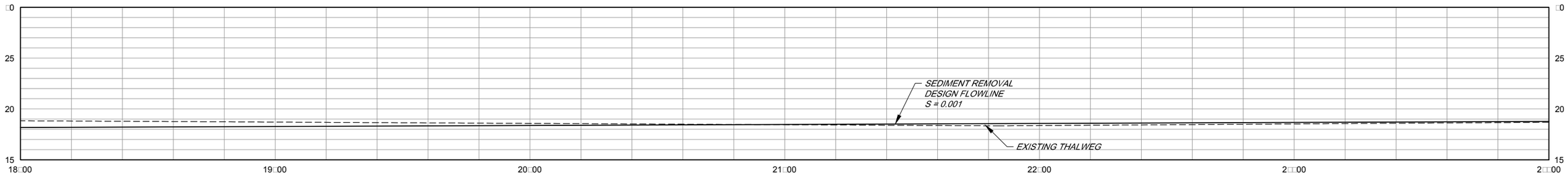
SONOMA COUNTY WATER AGENCY

SCALE:	AS SHOWN
DATE :	12/2/09
DRAWN :	ADF
REVIEWED :	

PETALUMA BASIN ZONE 2A
CORONA CREEK SEDIMENT REMOVAL
PLAN & PROFILE STA 12+00TO STA 18+00

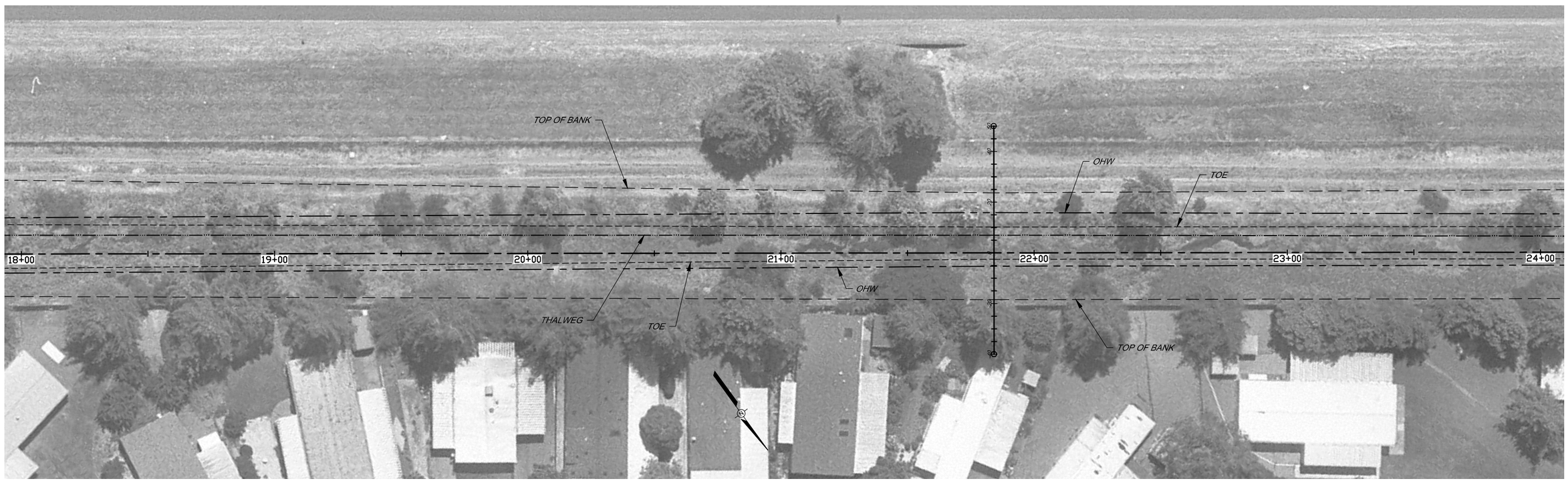
FILE NAME: 2010_Corona.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-3
SHEET 4 OF 8

\\Sd-data\Proj\Flood control\zone 2a\Corona\2010_Corona



PROFILE

SCALE: HORIZ 1" = 20'
VERT 1"= 5'



PLAN

SCALE: 1"= 20'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

90% SUBMITTAL

NO.	DATE	REVISION	BY

PRELIMINARY
SUBJECT TO REVISION

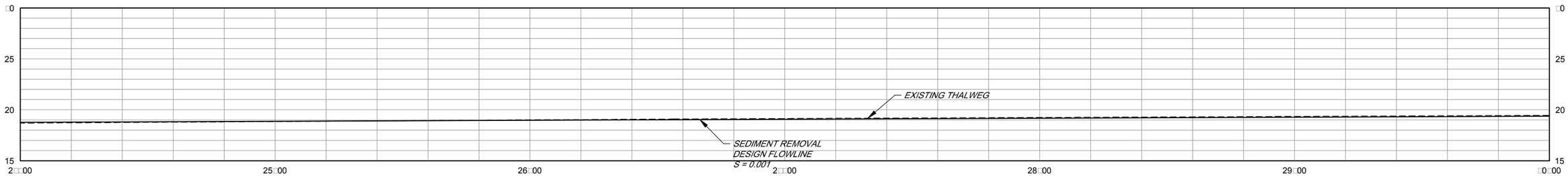
SONOMA COUNTY WATER AGENCY

SCALE:	AS SHOWN
DATE :	12/2/09
DRAWN :	ADF
REVIEWED :	

PETALUMA BASIN ZONE 2A
CORONA CREEKSEDIMENT REMOVAL
PLAN & PROFILE STA 18+00 TO STA 24+00

FILE NAME: 2010_Corona.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-4
SHEET 5 OF 8

\\Sd-data\Proj\Flood control\zone 2a\Corona\2010_Corona



PROFILE

SCALE: HORIZ 1" = 20'
VERT 1"= 5'

PLAN

SCALE: 1"= 20'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

90% SUBMITTAL

NO.	DATE	REVISION	BY

PRELIMINARY
SUBJECT TO REVISION

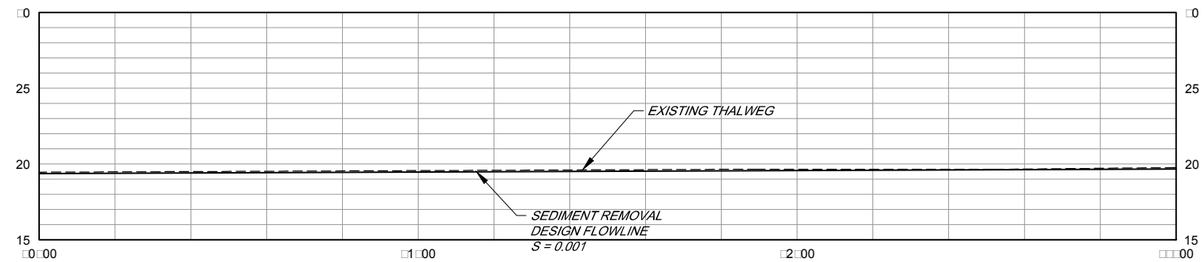
SONOMA COUNTY WATER AGENCY

SCALE:	AS SHOWN
DATE :	12/2/09
DRAWN :	ADF
REVIEWED :	

PETALUMA BASIN ZONE 2A
CORONA CREEKSEDIMENT REMOVAL
PLAN & PROFILE STA 24+00 TO STA 30+00

FILE NAME: 2010_Corona.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-5
SHEET 6 OF 8

\\Sd-data\Proj\flood control\zone 2a\Corona\2010_Corona



PROFILE

SCALE: HORIZ 1" = 20'
VERT 1"= 5'

PLAN

SCALE: 1"= 20'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

90% SUBMITTAL

NO.	DATE	REVISION	BY
		PRELIMINARY SUBJECT TO REVISION	

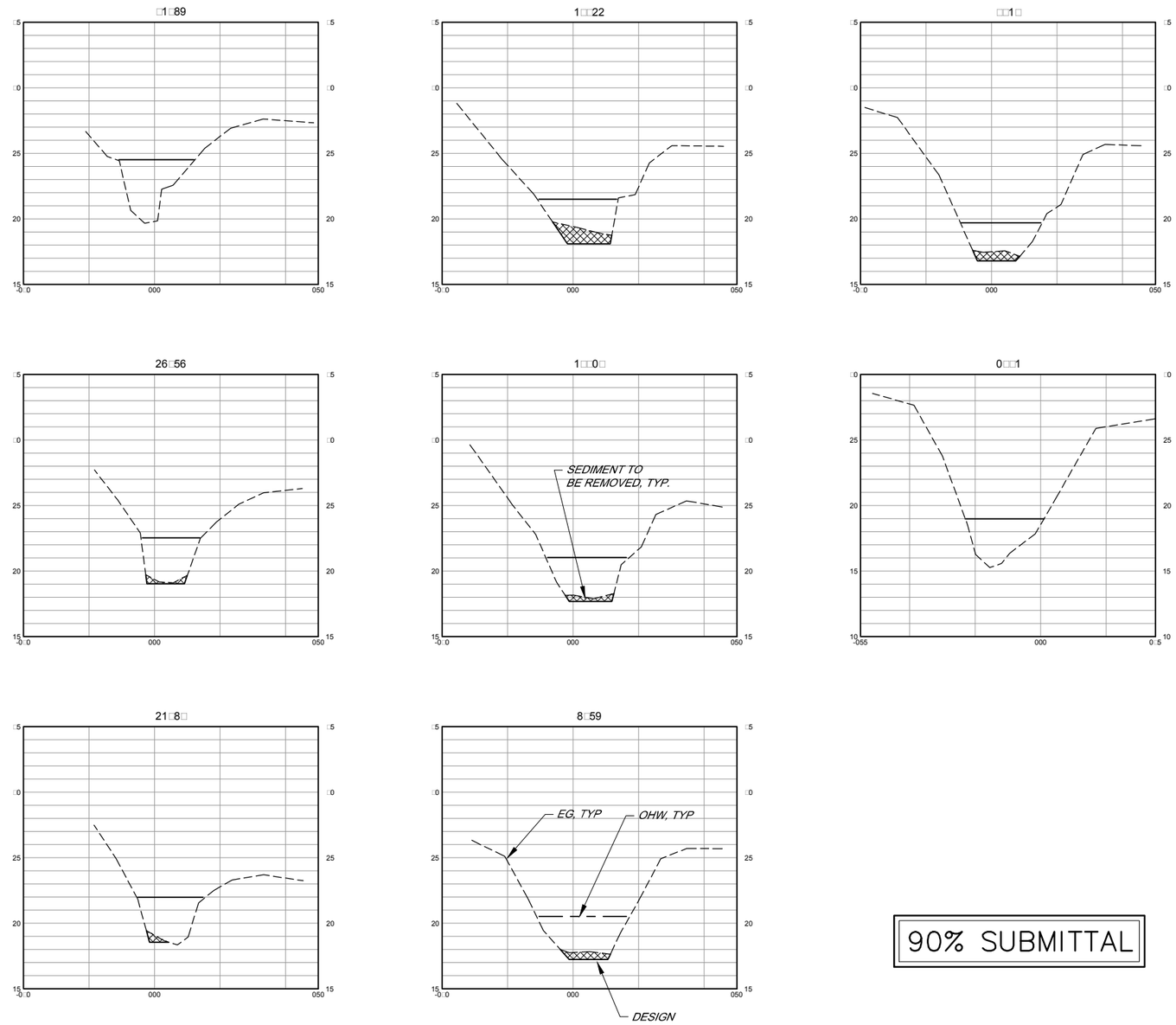
SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE : 12/2/09
DRAWN : ADF
REVIEWED :

PETALUMA BASIN ZONE 2A
CORONA CREEK SEDIMENT REMOVAL
PLAN & PROFILE STA30+00 TO STA 33+00

FILE NAME: 2010_Corona.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-6
SHEET 7 OF 8

\\Sd-data\Proj\flood control\zone 2a\Corona\2010_Corona



SECTIONS

SCALE: HORIZ 1" = 20'
VERT 1"= 5'

90% SUBMITTAL

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

\\Sd-data\Proj\flood control\zone 2a\Corona\2010_Corona

NO.	DATE	REVISION	BY

PRELIMINARY
SUBJECT TO REVISION

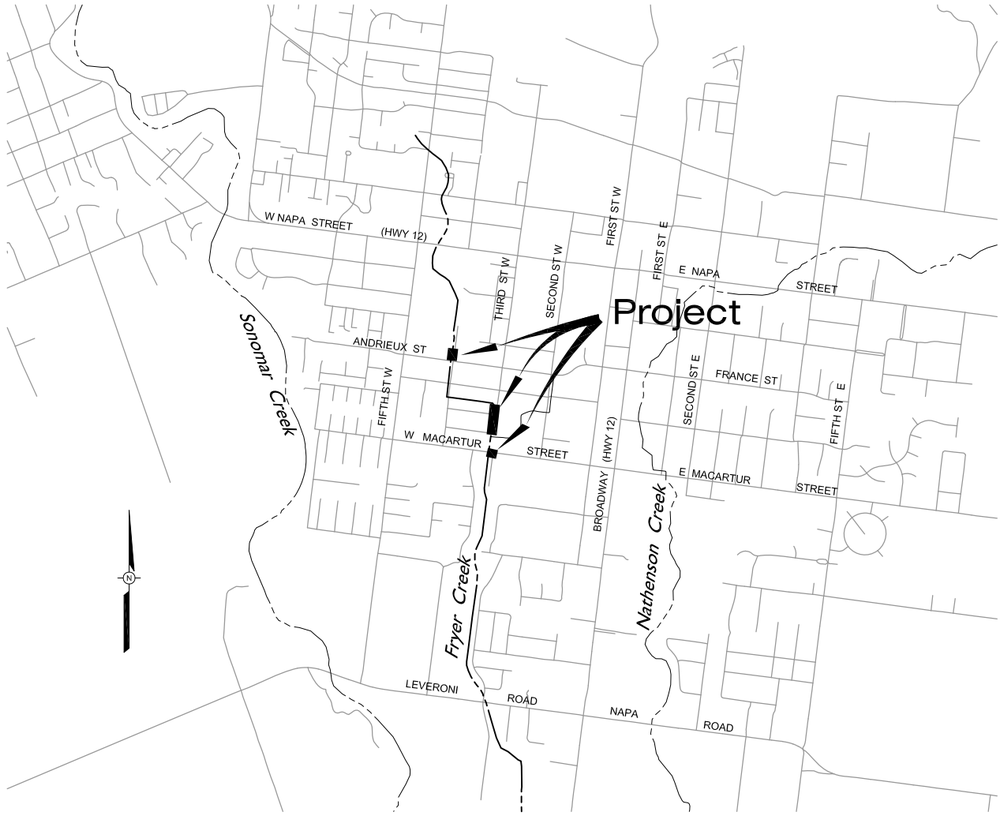
SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE : 12/2/09
DRAWN : ADF
REVIEWED :

PETALUMA BASIN ZONE 2A
CORONA CREEKSEDIMENT REMOVAL
SECTIONS

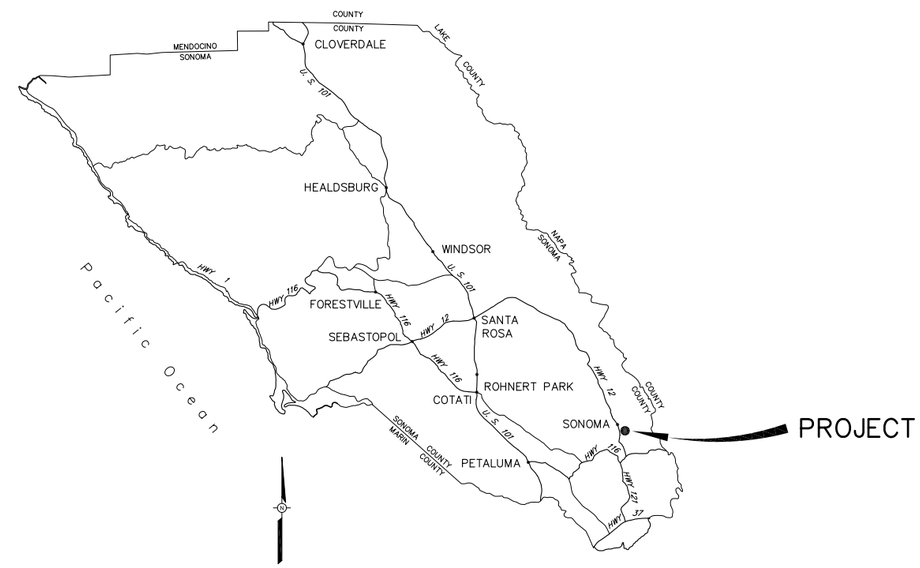
FILE NAME: 2010_Corona.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-7
SHEET 8 OF 8

FRYER CREEK SEDIMENT REMOVAL AND BANK RERPAIR



VICINITY MAP

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

FRYER CREEK						
VALLEY OF THE MOON ZONE 3A						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE/FILL)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED CHANNEL.	STATION 49+25 TO STATION 53+00	375	10	8250 BELOW OHW	1.0	140 BELOW OHW (TO REMOVE)
	STATION 64+45 TO STATION 65+40	95	10	95 ABOVE O.H.W. 855 BELOW O.H.W. TOTAL = 950	1.4	5 ABOVE O.H.W. 44 BELOW OHW TOTAL = 49 (TO REMOVE)
BANK REPAIR - PLACING ROCK RIPRAP WITH EXCAVATOR OR FRONT END LOAD FROM BANK	STATION 65+50	20	6	120	2	10 BELOW OHW (FILL)
STORM DRAIN CLEANING - LOW FLOW PIPE UNDER MACARTHUR STREET AND DAY LIGHTING INLET AND OUTLET	STATION 46+32 TO STATION 47+24	15	7	105	2	8 (TO REMOVE) (DOES NOT INCLUDE PIPE)

INDEX TO DRAWINGS:

SHEET NO.	DRAWING NO.	TITLE
1.	G-1	INDEX TO DRAWINGS, TABLE, LOCATION AND VICINITY MAPS
2.	C-1	PLAN, PROFILE STA 46+30 TO STA 54+00
3.	C-2	CROSS SECTIONS TYPICAL AND STA 49+98 TO STA 53+64
4.	C-3	PLAN, PROFILE AND SECTIONS STA 64+00 TO 66+00

REFRENCE:

AS-BUILT 3-9035/010/000-102.11 PLAN AND PROFILE STA 46+36± TO STA 51+99.37

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
10 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

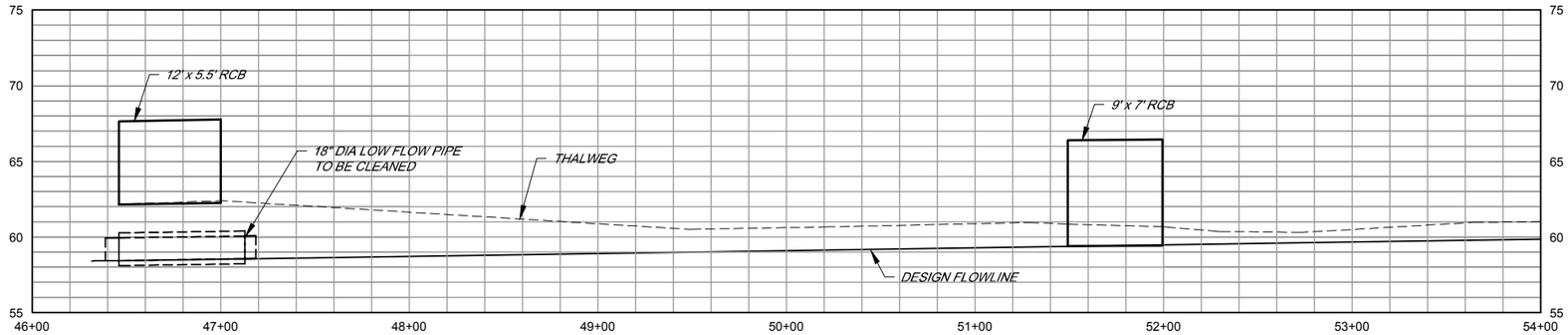
SCALE: AS SHOWN
DATE: 2/22/2011
DRAWN: ---
REVIEWED:

FRYER CREEK

INDEX TO DRAWINGS, TABLE LOCATION AND VICINITY MAPS

FILE NAME: 2011_fryer_G-1
CONTRACT NUMBER:
DRAWING NUMBER: G-1
SHEET 1 OF 5

\\Sd-data\Proj\flood control\zone 3a\Fryer_Creek\2011_maintenance



PROFILE

SCALE HORIZ 1" = 40'
VERT 1" = 10'

PLAN

SCALE 1" =40'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

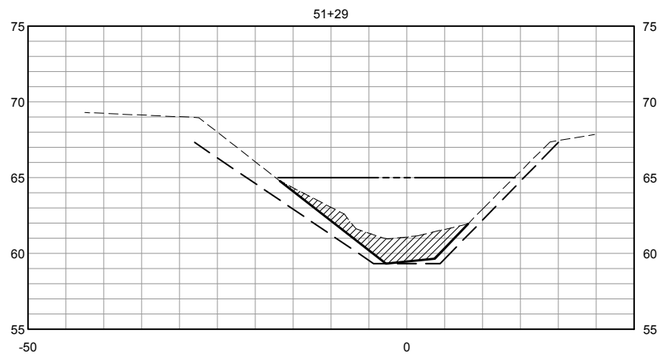
SCALE : AS SHOWN
DATE : 2/22/2011
DRAWN : ----
REVIEWED :

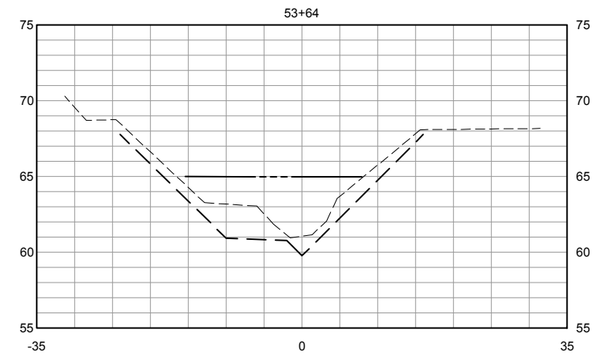
FRYER CREEK

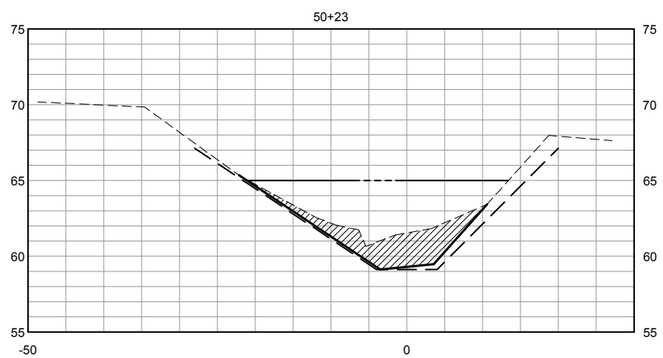
PLAN AND PROFILE STA 46+30 TO STA 54+00

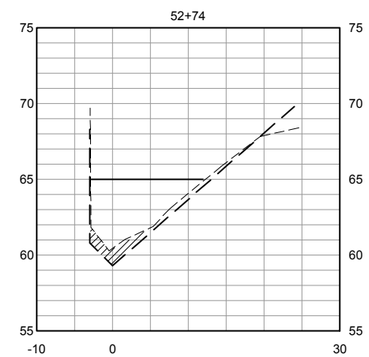
FILE NAME: 2011_fryer_C1-2
CONTRACT NUMBER:
DRAWING NUMBER: C-1
SHEET 2 OF 5

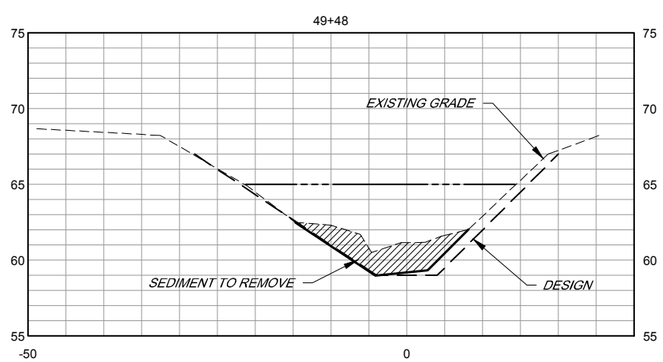
\\Sd-data\Proj\flood control\zone 3a\Fryer_Creek\2011_maintenance

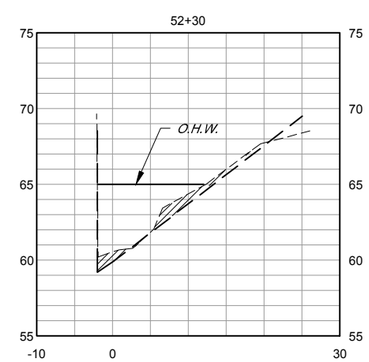






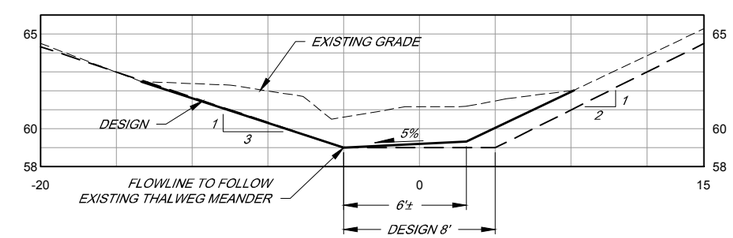






SECTIONS .

SCALE HORIZ 1" = 40'
VERT 1" = 10'



TYPICALSECTION .

NOT TO SCALE

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

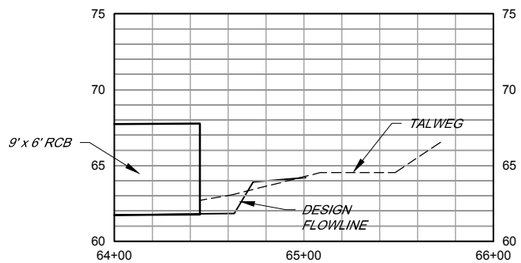
SCALE : AS SHOWN
DATE : 2/22/2011
DRAWN : ----
REVIEWED :

FRYER CREEK

CROSS SECTIONS TYPICAL AND STA 49+98 TO STA 53+64

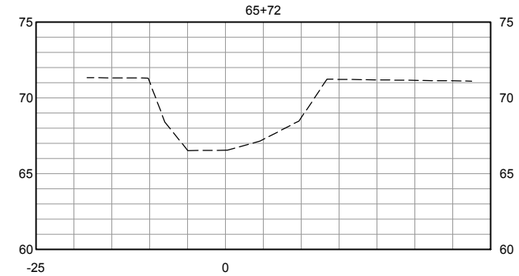
FILE NAME: 2011_fryer_C1-2
CONTRACT NUMBER:
DRAWING NUMBER: C-2
SHEET 3 OF 5

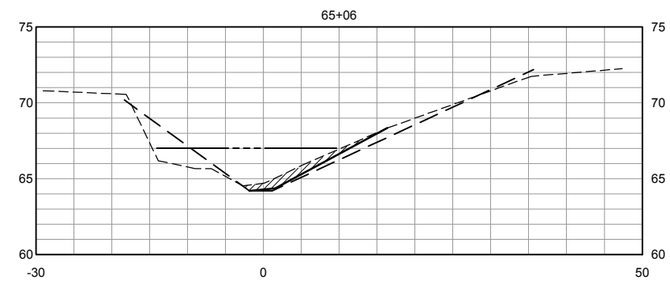
\\Sd-data\Proj\flood control\zone 3a\Fryer_Creek\2011_maintenance

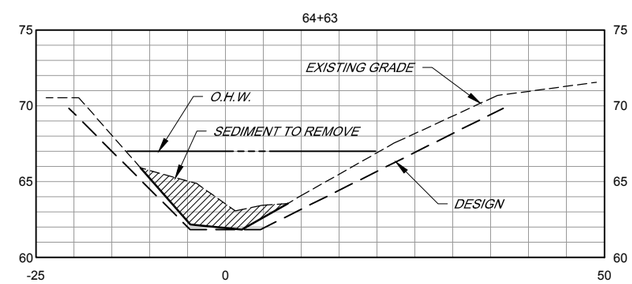


PROFILE .

SCALE HORIZ 1" = 40'
VERT 1" = 10'







PROFILE .

SCALE HORIZ 1" = 10'
VERT 1" = 5'

PLAN - STA 63+50 TO STA 65+96 .

SCALE 1" =40'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE : AS SHOWN
DATE : 2/22/2011
DRAWN : ----
REVIEWED :

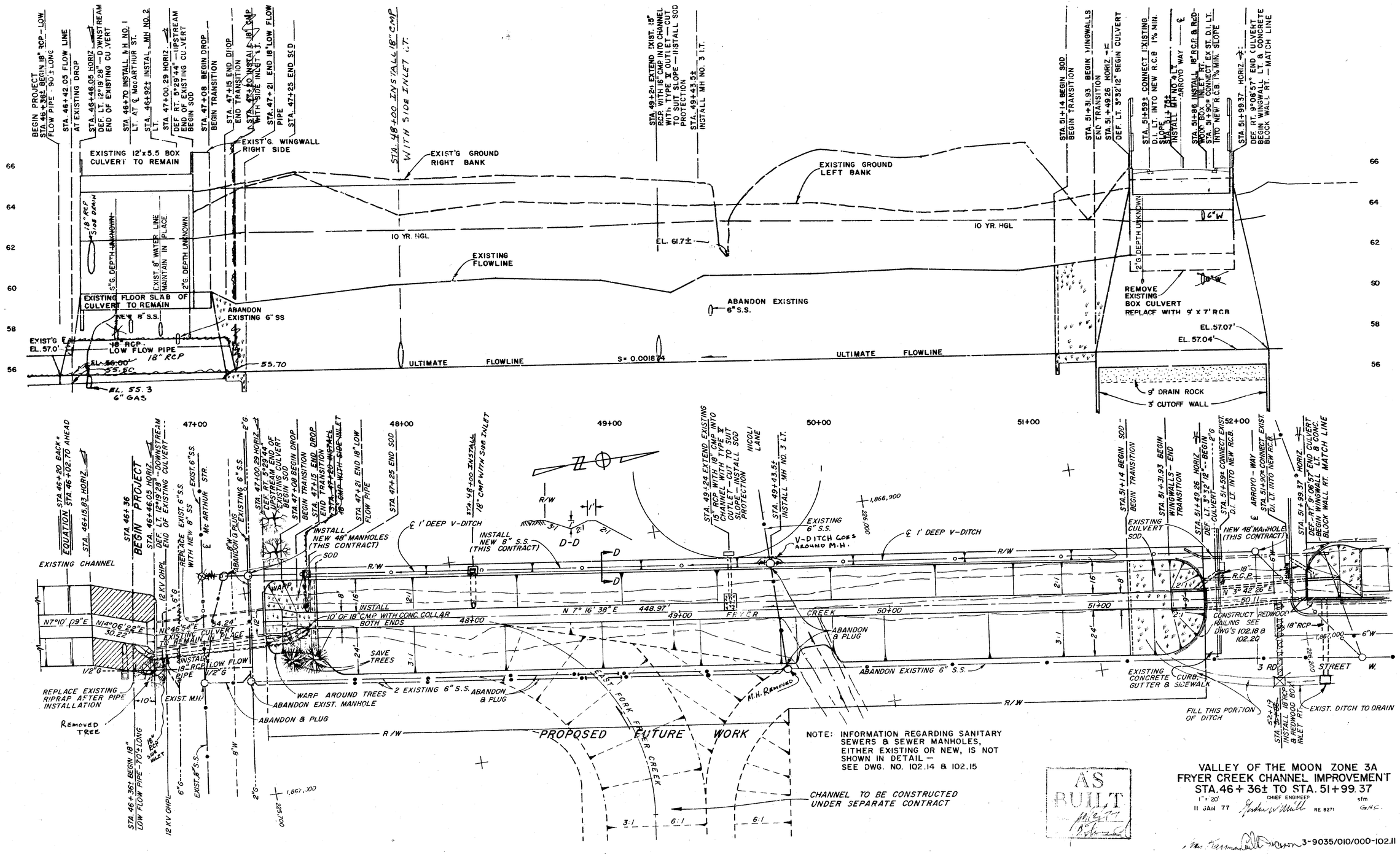
FRYER CREEK

PLAN, PROFILE AND SECTIONS STA 64+00 TO STA 66+00

FILE NAME: 2011_fryer_C1-2
CONTRACT NUMBER:
DRAWING NUMBER: C-3
SHEET 4 OF 5

\\Sd-data\Proj\flood control\zone 3a\Fryer_Creek\2011_maintenance

SHEET NO. 3



NOTE: INFORMATION REGARDING SANITARY SEWERS & SEWER MANHOLES, EITHER EXISTING OR NEW, IS NOT SHOWN IN DETAIL — SEE DWG. NO. 102.14 & 102.15

AS BUILT

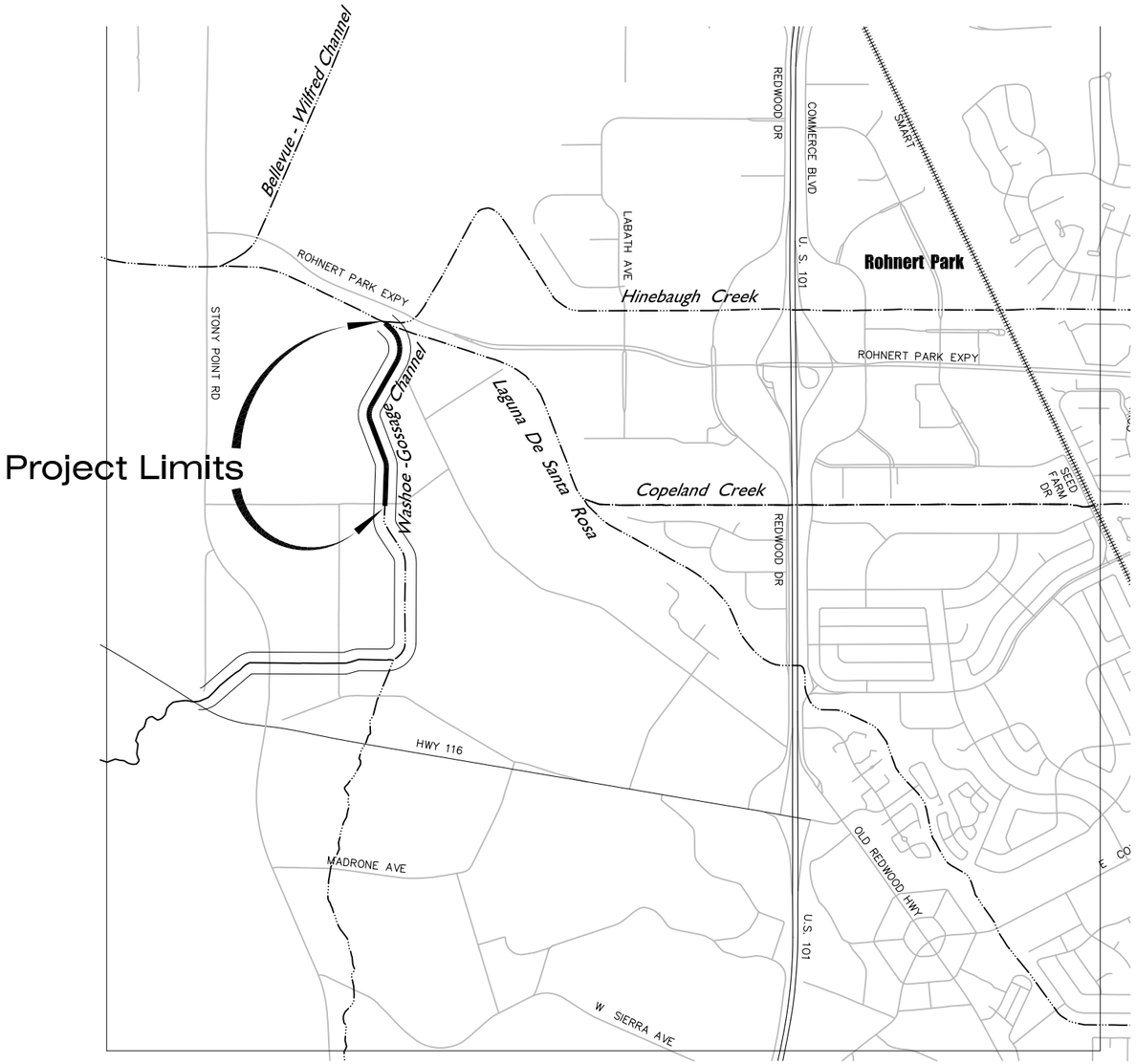
VALLEY OF THE MOON ZONE 3A
FRYER CREEK CHANNEL IMPROVEMENT
STA. 46+36± TO STA. 51+99.37

1" = 20' | CHIEF ENGINEER | sfm
11 JAN 77 | RE 8271 | G.H.S.

3-9035/010/000-102.11

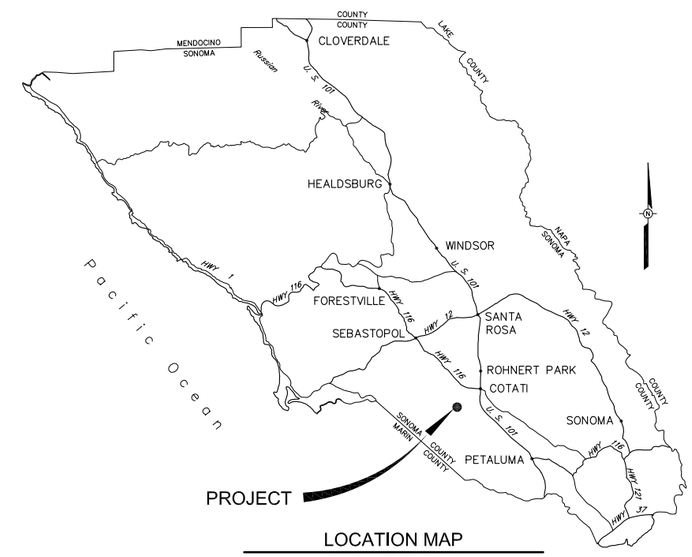
SHEET NO. 3

GOSSAGE CHANNEL SEDIMENT REMOVAL



VICINITY MAP

SCALE: 1" = 1000'



LOCATION MAP

SCALE: NOT TO SCALE

SHEET LIST TABLE

SHEET No	SHEET TITLE	SHEET DESCRIPTION
1	G-1	LOCATION AND VICINITY MAPS, INDEX TO DRAWINGS
2	G-2	TYPICAL CROSS SECTION AND EXCAVATION
3	C-1	GOSSAGE CREEK SEDIMENT REMOVAL PLAN AND PROFILE STA 2+16 TO STA 17+00
4	C-2	GOSSAGE CREEK SEDIMENT REMOVAL PLAN AND PROFILE STA 17+00 TO STA 27+00
5	C-3	GOSSAGE CHANNEL SEDIMENT REMOVAL CROSS SECTIONS
6	C-4	GOSSAGE CHANNEL SEDIMENT REMOVAL CROSS SECTIONS

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
DENNIS M. DALY
No. 32947
CIVIL
STATE OF CALIFORNIA

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
07 MAR 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

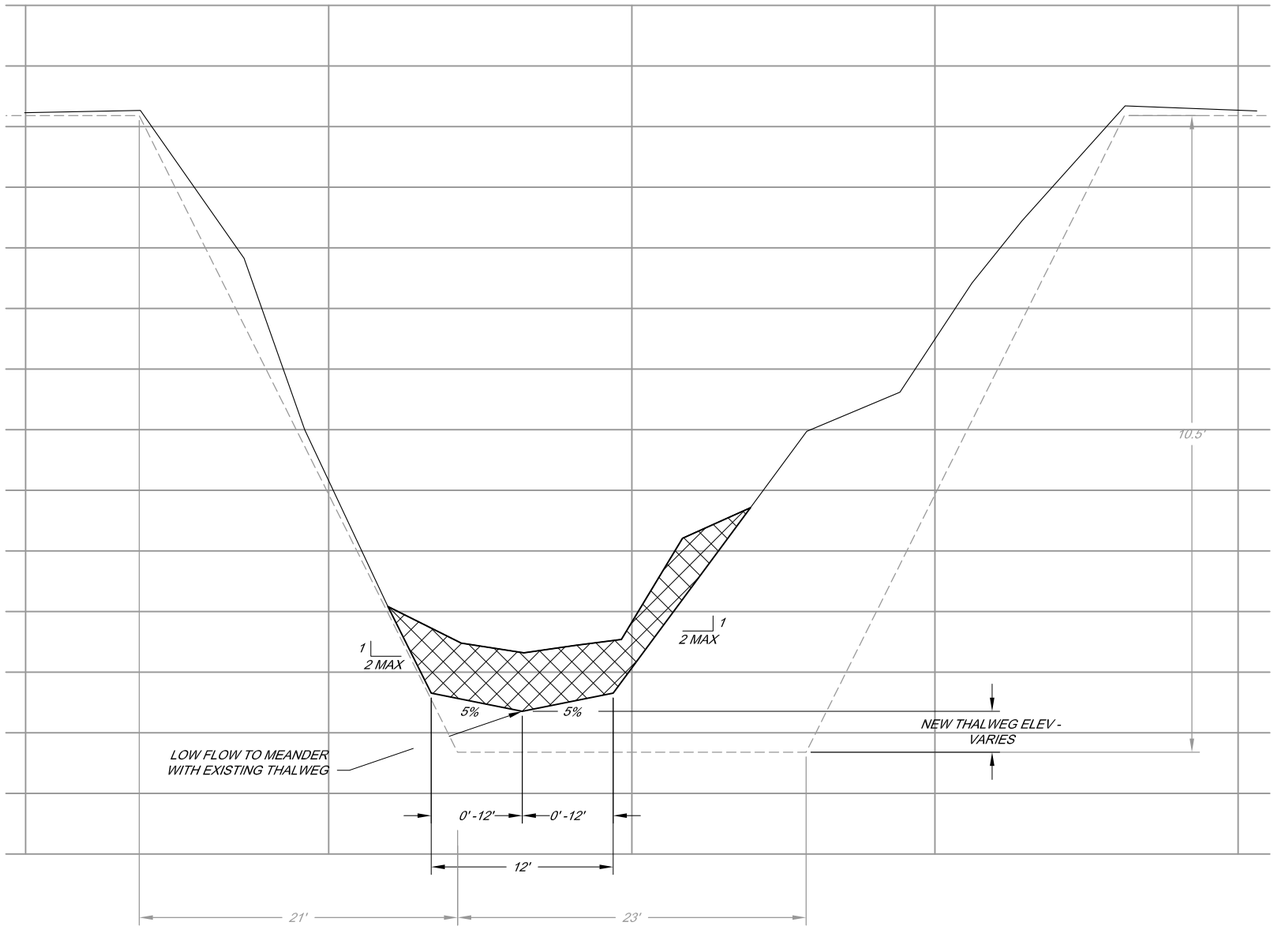
SCALE: AS SHOWN
DATE: 03/07/2011
DRAWN: SMP
REVIEWED:

LAGUNA - MARK WEST ZONE 1A

LOCATION AND VICINITY MAPS, INDEX TO DRAWINGS

FILE NAME: GossChan_G1-G2.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: G-1
SHEET 1 OF 6

\\Sd-data\proj\flood control\zone 1a\gossage\GossChan_G1-G2



TYPICAL CROSS SECTION

SCALE: NOT TO SCALE

LAGUNA DE SANTA ROSA 'D' LINE						
EXCAVATION						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN CHANNEL	STA 2+00 TO STA 28+00	2,600	21	BELOW O.H.W. 54,600	1.5	BELOW O.H.W. 3040

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STATE OF CALIFORNIA

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07 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

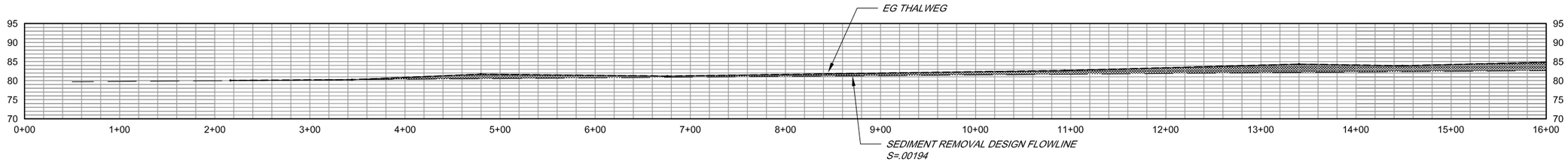
SCALE: AS SHOWN
DATE: 03/07/2011
DRAWN: SMP
REVIEWED:

LAGUNA - MARK WEST ZONE 1A

TYPICAL CROSS SECTION AND EXCAVATION

FILE NAME: GossChan_G1-G2.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: G-2
SHEET 2 OF 6

\\Sd-data\proj\Flood control\zone 1a\gossage\GossChan_G1-G2



PROFILE

SCALE: HORIZ 1" = 60'
VERT 1"= 15'

PLAN

SCALE: HORIZ 1" = 60'

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
07 MAR 2011

REGISTERED PROFESSIONAL ENGINEER
DENNIS M. DALY
No. 32947
CIVIL
STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

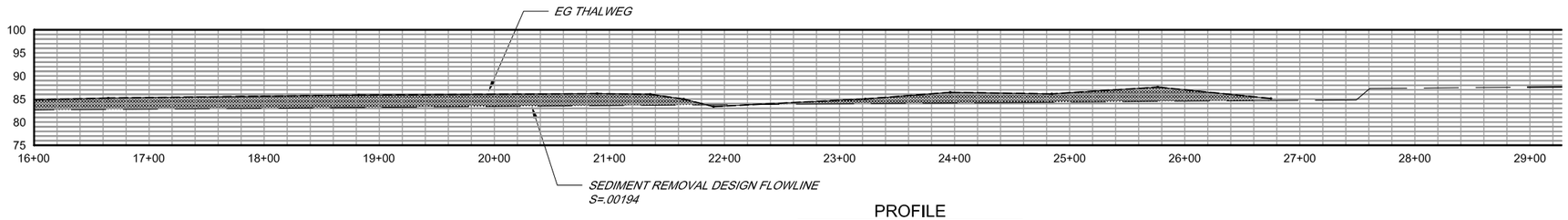
SCALE: AS SHOWN
DATE: 03/07/2011
DRAWN: SMP
REVIEWED:

LAGUNA - MARK WEST ZONE 1A

GOSSAGE CREEK SEDIMENT REMOVAL PLAN AND PROFILE
STA 2+16 TO STA 17+00

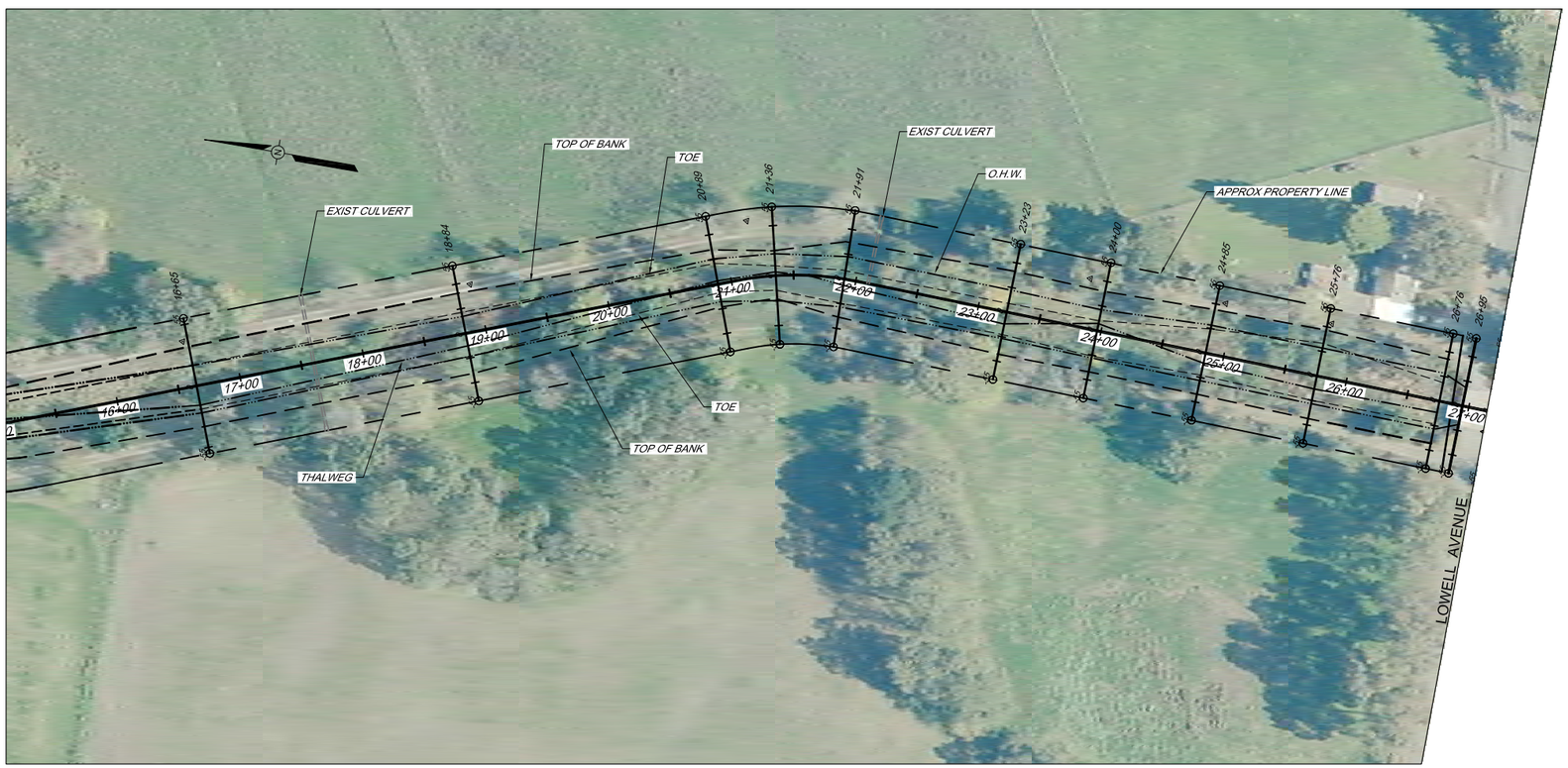
FILE NAME: GossChan_CivilShts.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: C-1
SHEET 3 OF 6

\\Sd-data\pro\flood control\zone 1a\gossage\GossChan_CivilShts



PROFILE

SCALE: HORIZ 1" = 60'
VERT 1"= 15'



PLAN

SCALE: HORIZ 1" = 60'

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
07 MAR 2011

REGISTERED PROFESSIONAL ENGINEER
DENNIS M. DALY
No. 32947
CIVIL
STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

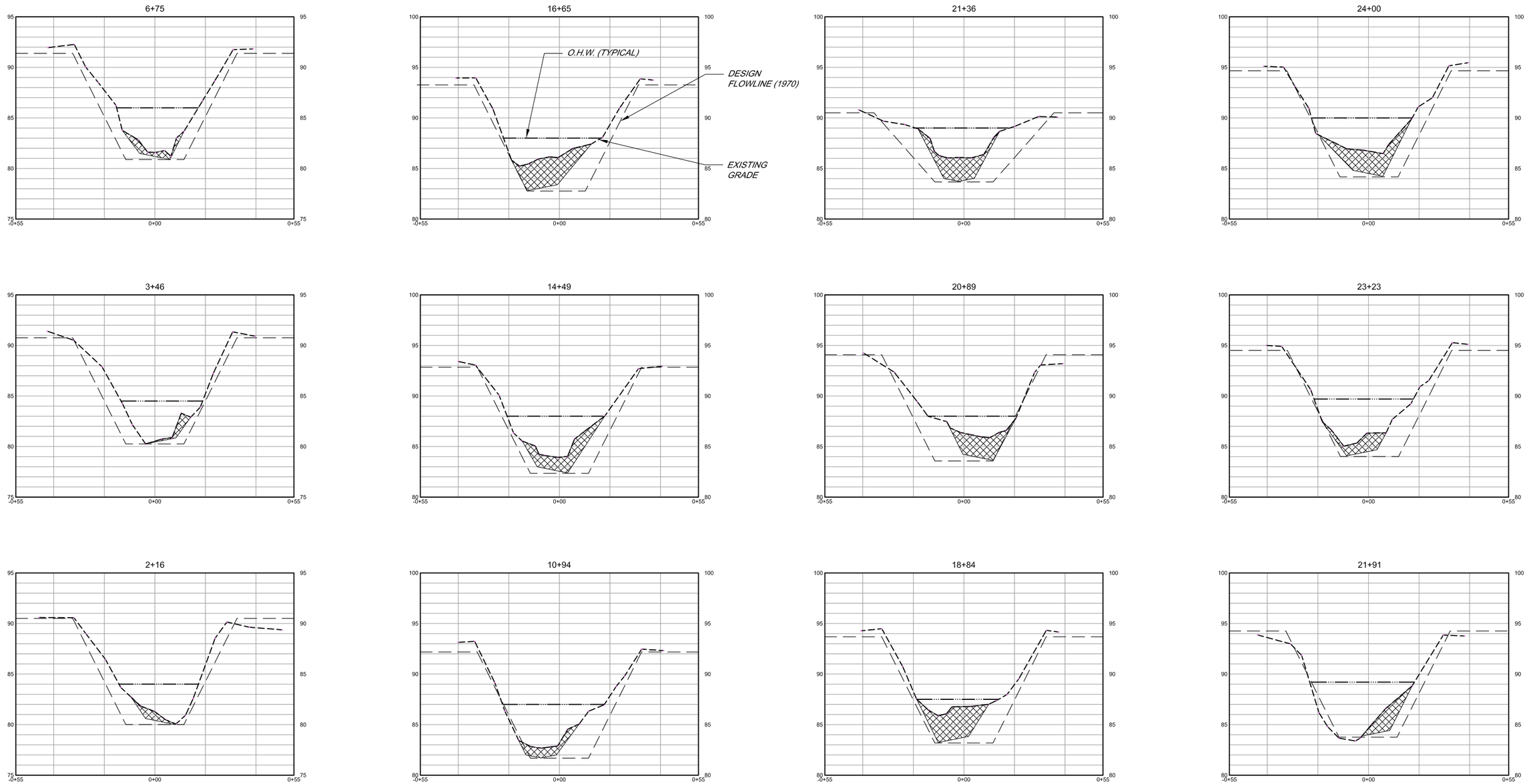
SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: 03/07/2011
DRAWN: SMP
REVIEWED:

LAGUNA - MARK WEST ZONE 1A
GOSSAGE CREEK SEDIMENT REMOVAL PLAN AND PROFILE
STA 17+00 TO STA 27+00

FILE NAME: GossChan_CivilShts.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: C-2
SHEET 4 OF 6

\\Sd-data\proj\flood control\zone 1a\gossage\GossChan_CivilShts



SECTIONS

SCALE: HORIZ 1" = 20'
VERT 1" = 5'

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
07 MAR 2011

REGISTERED PROFESSIONAL ENGINEER
DENNIS M. DALY
No. 32947
CIVIL
STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH, ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

PRELIMINARY
SUBJECT TO REVISION

SONOMA COUNTY WATER AGENCY

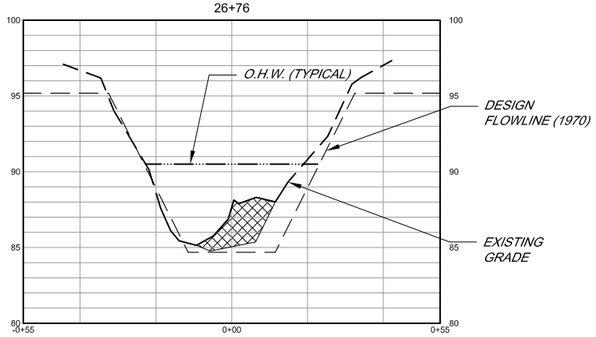
SCALE: AS SHOWN
DATE: 03/07/2011
DRAWN: SMP
REVIEWED:

LAGUNA - MARK WEST ZONE 1A
GOSSAGE CHANNEL SEDIMENT REMOVAL
CROSS SECTIONS

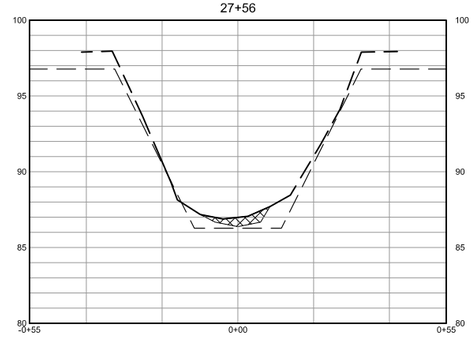
FILE NAME: GossChan_CivilShts.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: C-3
SHEET 5 OF 6

\\Sd-data\proj\flood control\zone 1a\gossage\GossChan_CivilShts

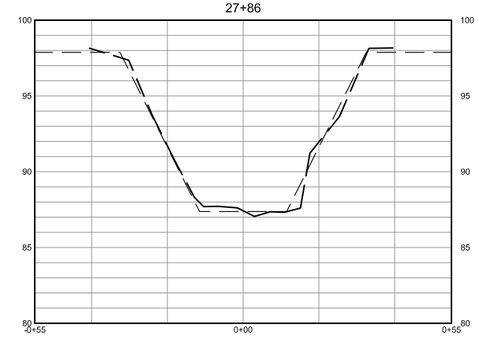
26+76



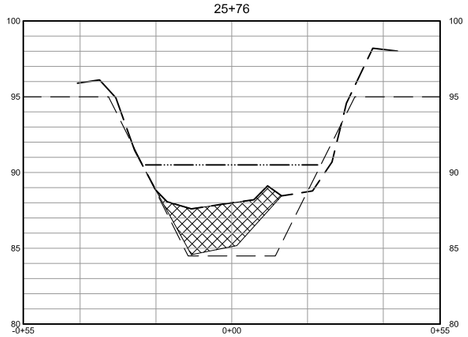
27+56



27+86



25+76



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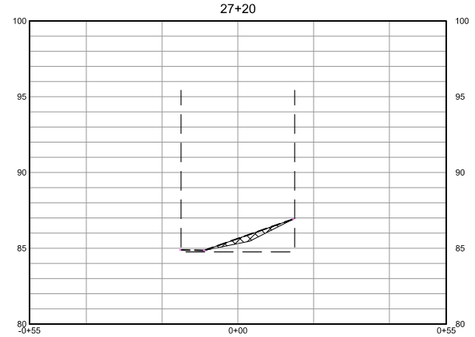
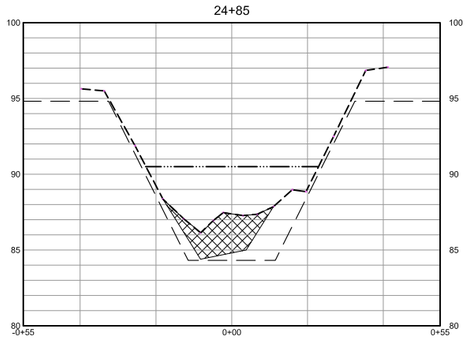
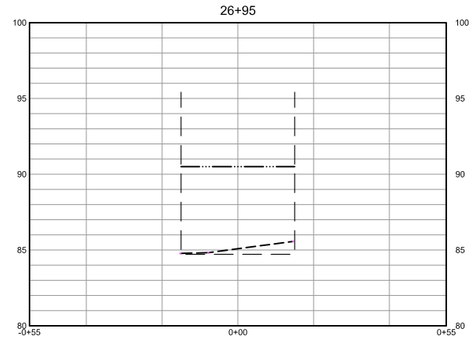


24+85



26+95



SECTIONS

SCALE: HORIZ 1" = 20'
VERT 1"= 5'

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
07 MAR 2011

REGISTERED PROFESSIONAL ENGINEER
DENNIS M. DALY
No. 32947
CIVIL
STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

\\Sd-data\proj\flood control\zone 1a\gossage\GossChan_CivilShts

NO.	DATE	REVISION	BY

PRELIMINARY
SUBJECT TO REVISION

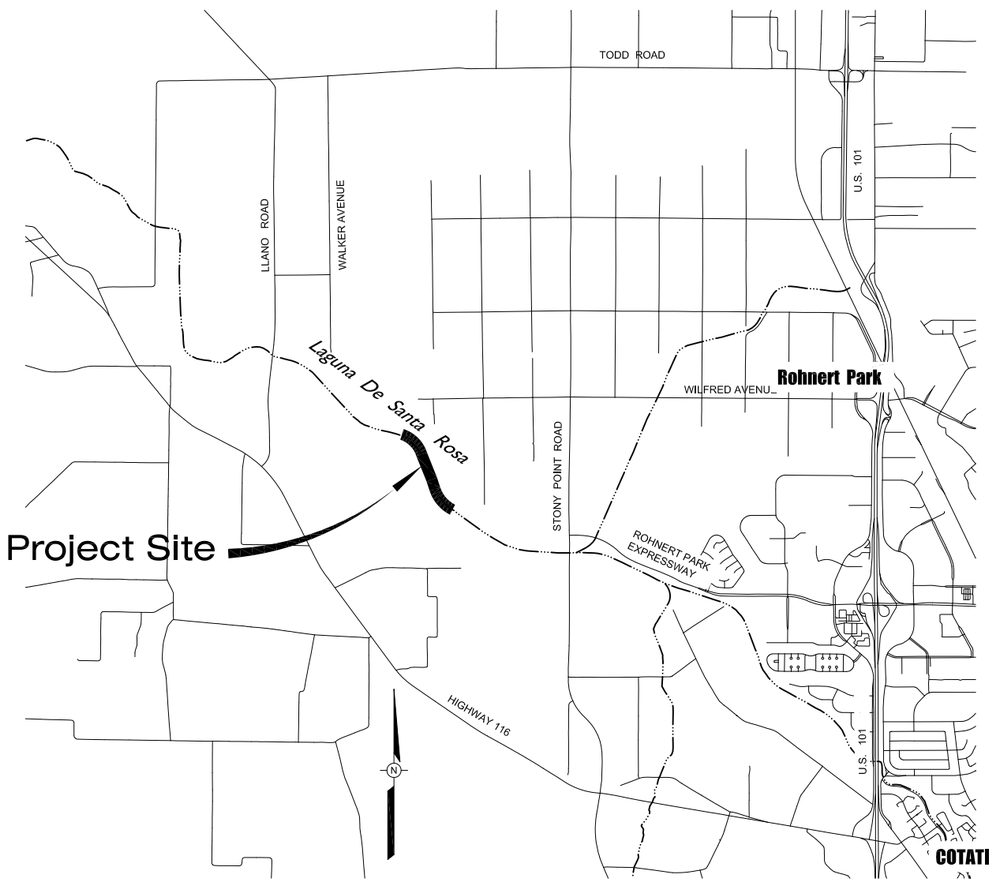
SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: 03/07/2011
DRAWN: SMP
REVIEWED:

LAGUNA - MARK WEST ZONE 1A
GOSSAGE CHANNEL SEDIMENT REMOVAL
CROSS SECTIONS

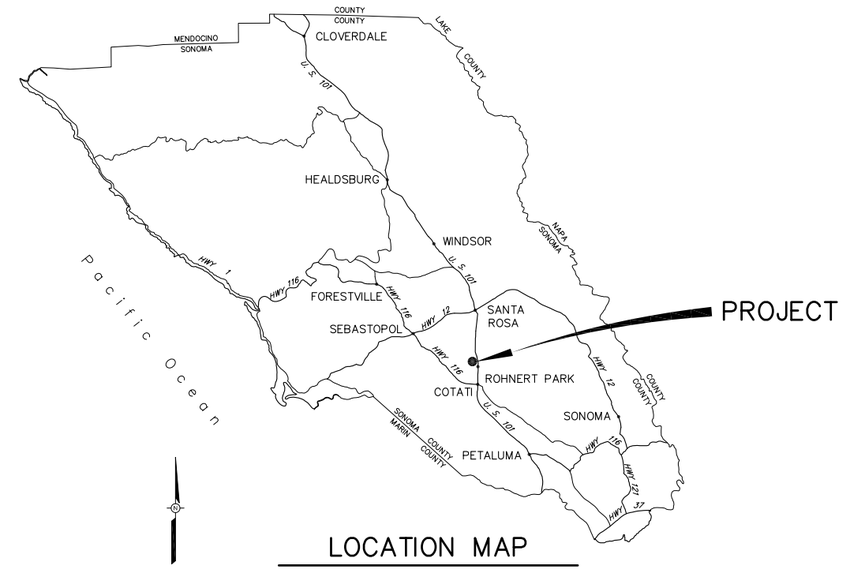
FILE NAME: GossChan_CivilShts.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: C-4
SHEET 6 OF 6

LAGUNA DE SANTA ROSA 'D' LINE (SMP REACH 1) SEDIMENT REMOVAL



VICINITY MAP

NTS



LAGUNA DE SANTA ROSA 'D' LINE						
EXCAVATION						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN CHANNEL	STA 46+00 TO STA 70+00	2,400	44	BELOW O.H.W. 105,600	3.2	BELOW O.H.W. 12,418

INDEX TO DRAWINGS:

SHEET NO.	DRAWING NO.	TITLE
1.	G-1	INDEX TO DRAWINGS, LOCATION AND VICINITY MAPS
2.	C-1	SITE PLAN AND ACCESS ROUTES
3.	C-2	PLAN AND PROFILE STA 34+00 TO STA 56+00
4.	C-3	PLAN AND PROFILE STA 56+00 TO STA 72+00
5.	C-4	DETAILS
6.	C-5	SECTIONS

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

90% SUBMITTAL

PRELIMINARY
SUBJECT TO REVISION

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE:	NONE
DATE:	3-Mar-11
DRAWN:	ADF
REVIEWED:	

LAGUNA - MARK WEST ZONE 1A
LAGUNA DE SANTA ROSA "D-LINE" SEDIMENT REMOVAL
INDEX TO DRAWINGS, LOCATION AND VICINITY MAP

FILE NAME: 2009_G.dwg
CONTRACT NUMBER:
DRAWING NUMBER: G-1
SHEET 1 OF 6

\\Sc-data\Proj\flood controlzone 1a\LAGUNA\2199_llano-stony_point\2011_Maintenance\2009_G

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH, ADJUST SCALE ACCORDINGLY

90% SUBMITTAL

SITE PLAN
SCALE: 1"= 200'

NO.	DATE	REVISION	BY

PRELIMINARY
SUBJECT TO REVISION

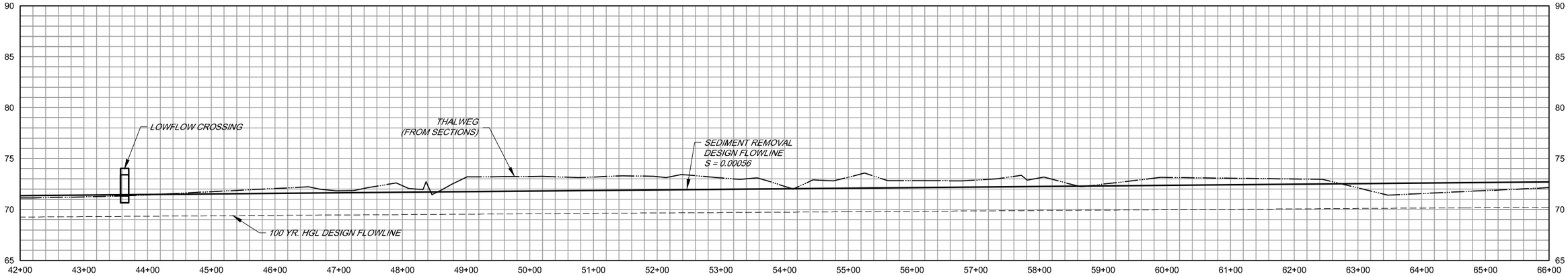
SONOMA COUNTY WATER AGENCY

SCALE:	NONE
DATE :	15-Feb-11
DRAWN :	ADF
REVIEWED :	

LAGUNA - MARK WEST ZONE 1A
LAGUNA DE SANTA ROSA "D-LINE"
SITE PLAN AND ACCESS ROUTES

FILE NAME: 2009_C-1.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-1
SHEET 2 OF 6

\\Sd-data\Proj\flood control\zone 1a\LAGUNA\2199_llano-stony_point\2011_Maintenance\2009_C-1



PROFILE

SCALE: HORIZ. 1" = 100'
VERT 1" = 5'

PLAN

SCALE: 1" = 100'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

90% SUBMITTAL

NO.	DATE	REVISION	BY

PRELIMINARY

SUBJECT TO REVISION

SONOMA COUNTY WATER AGENCY

SCALE:	AS SHOWN
DATE:	16-Feb-11
DRAWN:	----
REVIEWED:	

LAGUNA - MARK WEST ZONE 1A

LAGUNA DE SANTA ROSA "D-LINE"

SEDIMENT REMOVAL - STA 34+00 TO STA 65+00

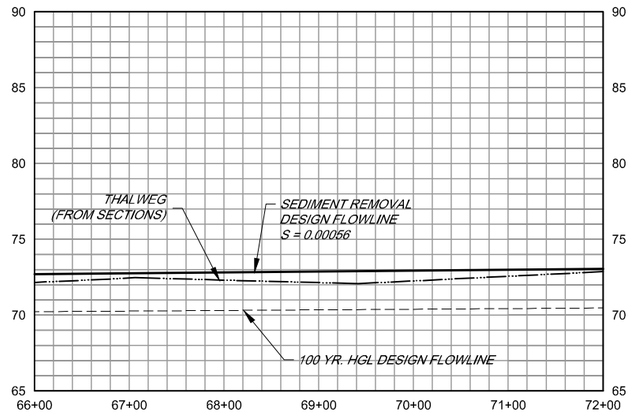
FILE NAME: 2011_C1-4.dwg

CONTRACT NUMBER:

DRAWING NUMBER: C-2

SHEET 3 OF 6

\\Sa-data\Proj\flood control\zone 1a\LAGUNA\2199_llano-stony_point\2011_Maintenance\2011_C1-4



PROFILE

SCALE: HORIZ. 1" = 100'
VERT 1" = 5'

PLAN

SCALE: 1" = 100'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH, ADJUST SCALE ACCORDINGLY

90% SUBMITTAL

NO.	DATE	REVISION	BY

PRELIMINARY

SUBJECT TO REVISION

SONOMA COUNTY WATER AGENCY

SCALE:	AS SHOWN
DATE :	16-Feb-11
DRAWN :	----
REVIEWED :	

LAGUNA - MARK WEST ZONE 1A

LAGUNA DE SANTA ROSA "D-LINE"

SEDIMENT REMOVAL - STA 65+00 TO STA 72+00

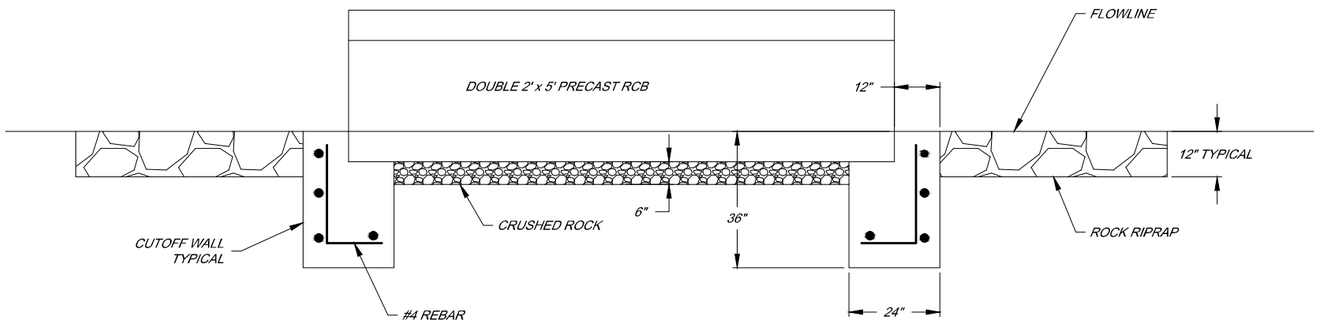
FILE NAME: 2011_C1-4.dwg

CONTRACT NUMBER:

DRAWING NUMBER: C-3

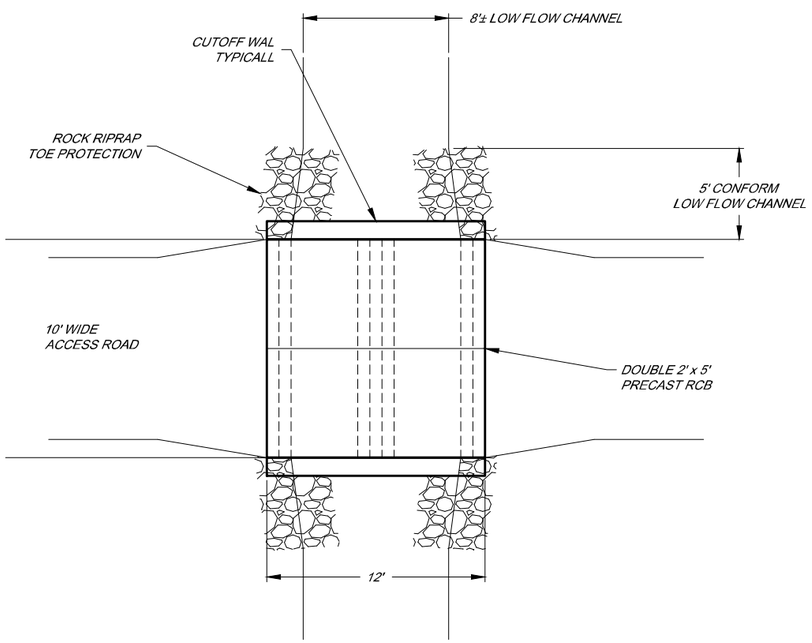
SHEET 4 OF 6

\\Sd-data\Proj\flood control\zone 1a\LAGUNA\2199_llano-story_point\2011_Maintenance\2011_C1-4



PROFILE - LOW FLOW CROSSING

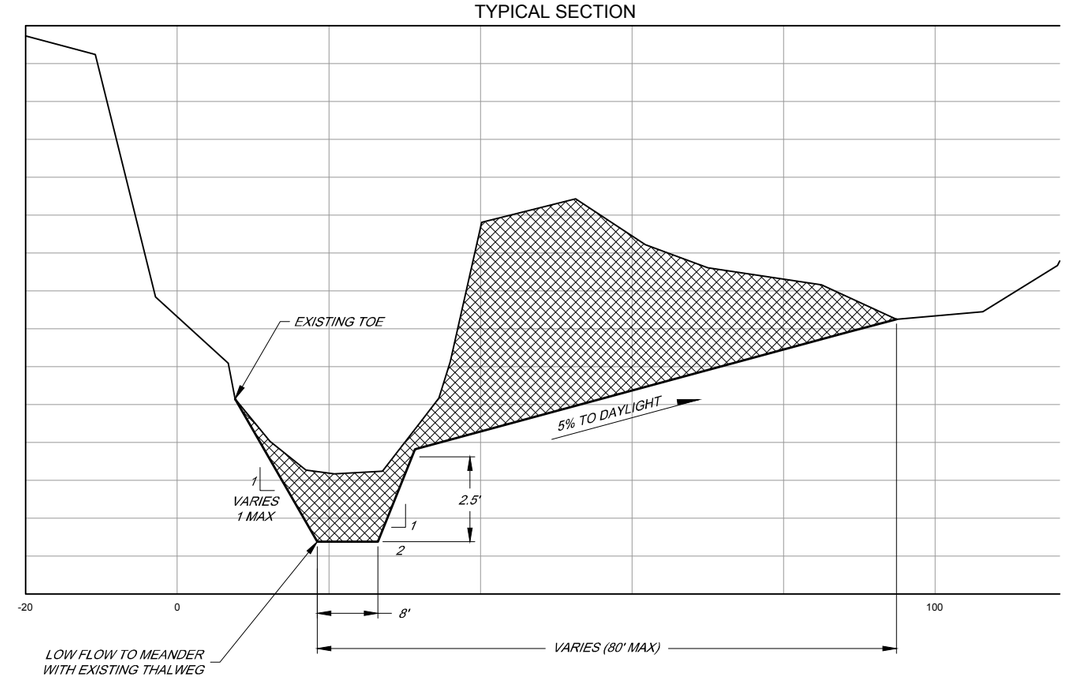
NOT TO SCALE



PLAN - LOW FLOW CROSSING STA 43+64±

NOT TO SCALE

TYPICAL SECTION



NOTE :
FISH HABITAT POOLS (2' - 3' DEEP x 5' WIDE x 50' LONG) TO BE CONSTRUCTED IN THALWEG, LOCATION BASED ON SITE CONDITIONS, NOT SHOWN ON SECTIONS.

TYPICAL SECTION

SCALE: HORIZ 1" = 10'
VERT 1" = 2'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH, ADJUST SCALE ACCORDINGLY

90% SUBMITTAL

NO.	DATE	REVISION	BY

PRELIMINARY
SUBJECT TO REVISION

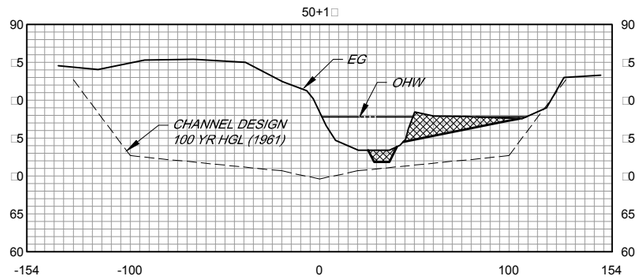
SONOMA COUNTY WATER AGENCY

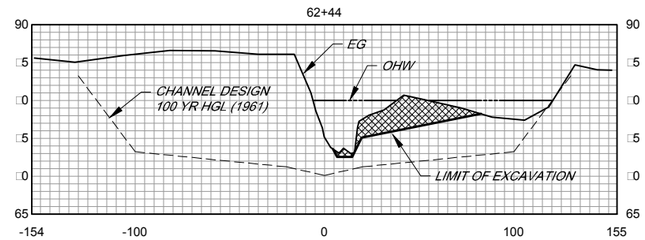
SCALE:	AS SHOWN
DATE :	16-Feb-11
DRAWN :	----
REVIEWED :	

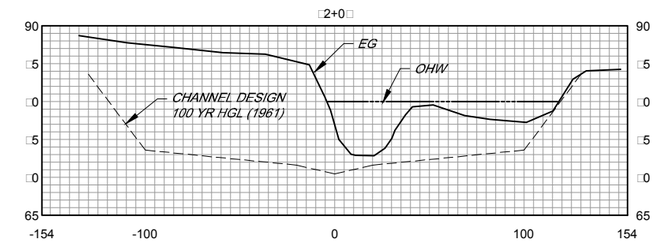
LAGUNA - MARK WEST ZONE 1A
LAGUNA DE SANTA ROSA "D-LINE"
DETAILS

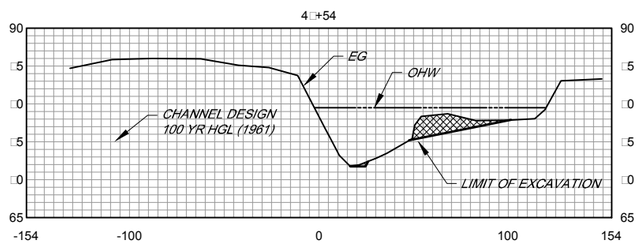
FILE NAME: 2011_C1-4.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-4
SHEET 5 OF 6

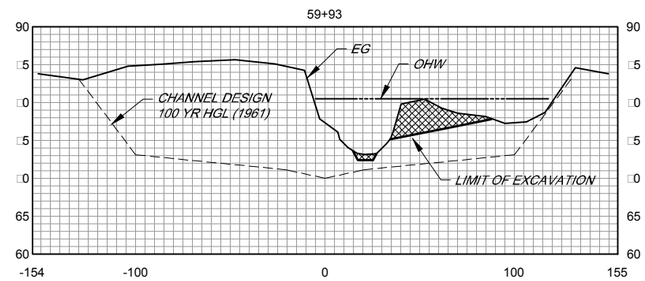
\\Sd-data\Proj\flood control\zone 1a\LAGUNA\2199_llano-stony point\2011_Maintenance\2011_C1-4

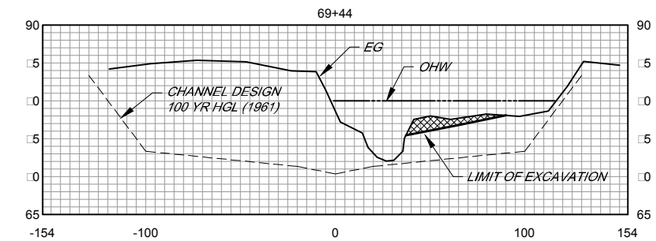


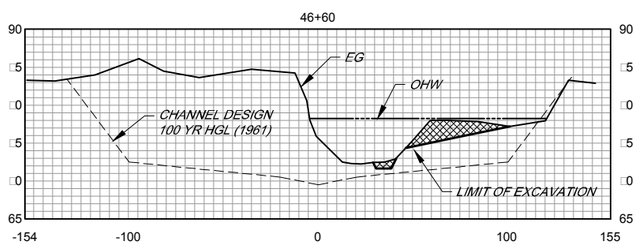


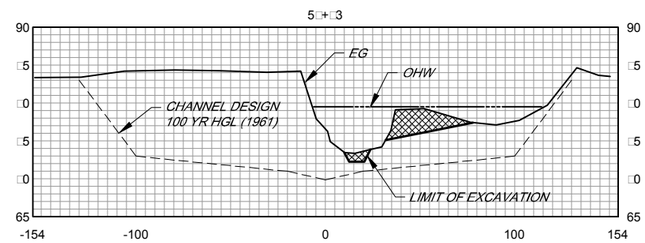


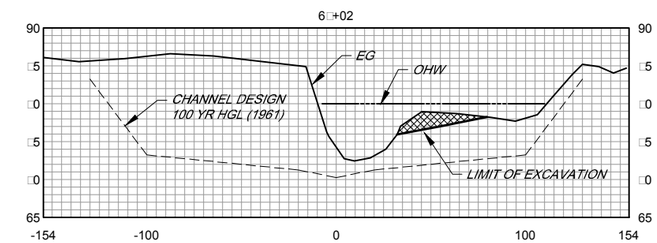


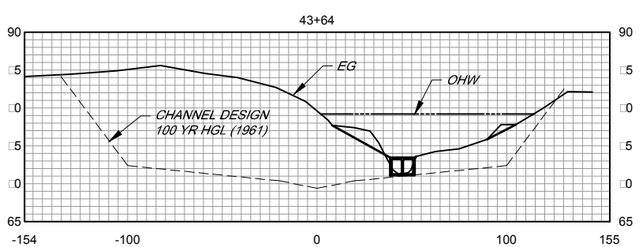


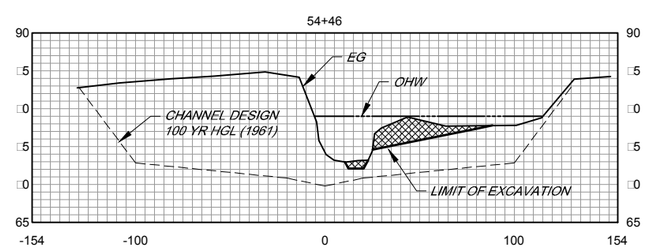


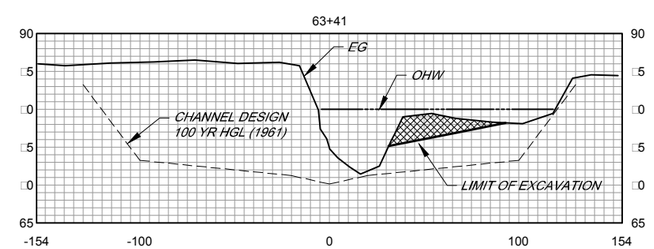












SECTIONS

SCALE: HORIZ 1" = 40'
VERT 1" = 10'

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

90% SUBMITTAL

PRELIMINARY
SUBJECT TO REVISION

NO.	DATE	REVISION	BY

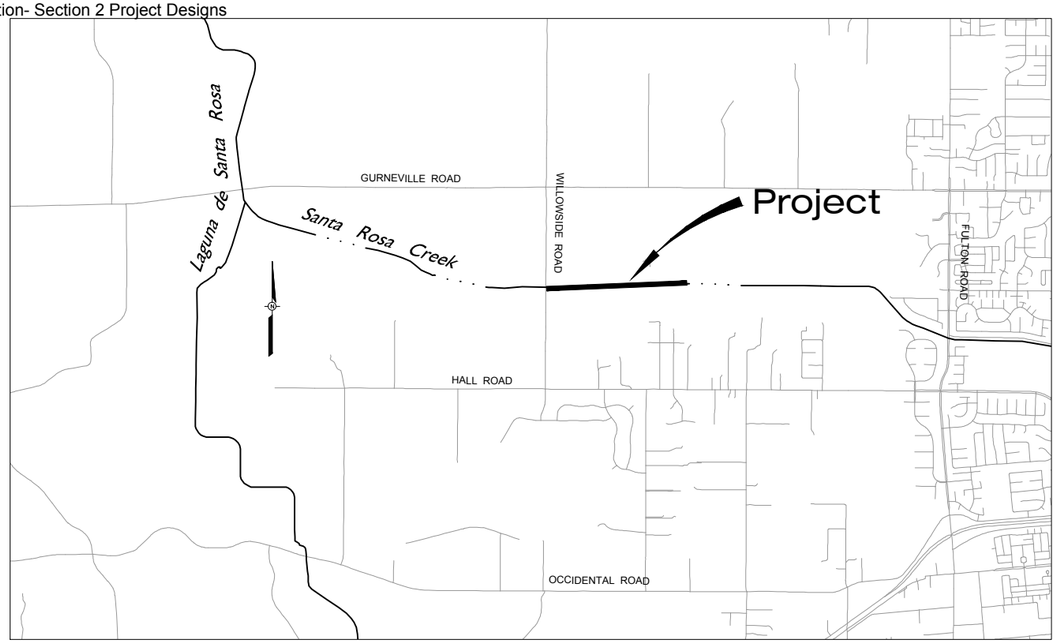
SONOMA COUNTY WATER AGENCY

SCALE:	AS SHOWN
DATE:	16-Feb-11
DRAWN:	ADF
REVIEWED:	

LAGUNA - MARK WEST ZONE 1A
LAGUNA DE SANTA ROSA "D-LINE"
SECTIONS STA 43+00 TO □2+00

FILE NAME: 2011_C1-4.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-5
SHEET 6 OF 6

\\Sd-data\Proj\flood control\zone 1a\LAGUNA\2199_llano-stony_point\2011_Maintenance\2011_C1-4

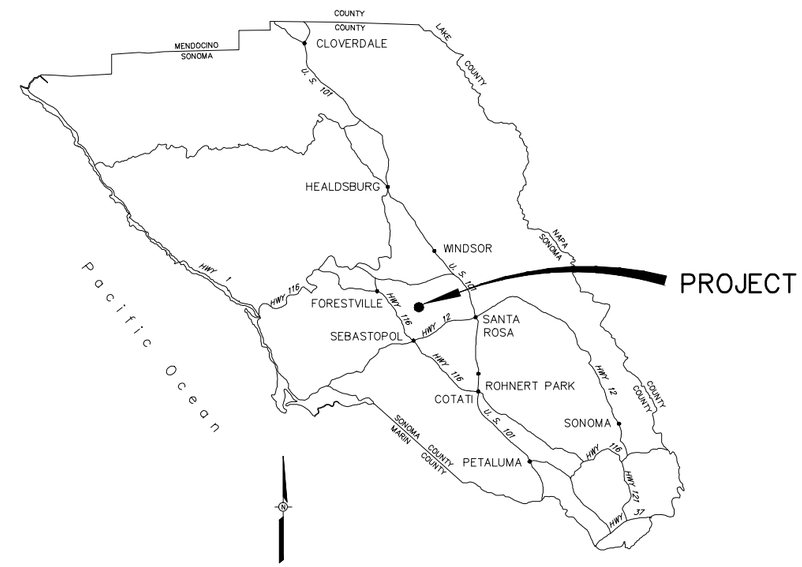


VICINITY MAP

NOT TO SCALE

LAGUNA MARK WEST ZONE 1A

SANTA ROSA CREEK SEDIMENT REMOVAL 1



LOCATION MAP

NOT TO SCALE

SANTA ROSA CREE□						
EXCAVATION						
PRO□ECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH □LINEAR FT.□	AVERAGE WIDTH □LINEAR FT.□	AREA □S□UARE FT.□	DEPTH □FT.□	C.Y. □TO REMOVE□
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN CHANNEL ON EITHER SIDE OF SUMMER FLOW	NORTH SIDE CHANNEL STA □□6□00 TO STA □□2□25	605	□2	19,□60	0.5	□59
	NORTH SIDE CHANNEL STA □□□□66 TO STA □52□26	□□0	□0	1□,600	1.0	652
	NORTH SIDE CHANNEL STA □60□28 TO STA □□□1□08	1,060	□5	□□,100	0.6	82□
	SOUTH SIDE CHANNEL STA □□□□08 TO STA □□5□9□	165	□0	□,950	2.0	□6□
	SOUTH SIDE CHANNEL STA □□2□□8 TO STA □□□□□8	□80	□8	18,2□0	1.5	1,01□
	SOUTH SIDE CHANNEL STA □52□□0 TO STA □59□9□	□□□	□5	□□,□80	0.5	620
TOTALS:	STA □□□□00 TO STA □□1□08	□,□9□	□6.□	BELOW O.H.W. 1□0,□□0	1.0	BELOW O.H.W. □,8□5

INDEX TO DRAWINGS:

SHEET NO.	DRAWING NO.	TITLE
1.	G-1	LOCATION AND VICINITY MAPS
2.	C-1	PLAN AND PROFILE STA 434+00 TO STA 456+00
3.	C-2	PLAN AND PROFILE STA 456+00 TO STA 475+00
4.	C-3	TYPICAL DETAILS
5.	C-4	SECTIONS
6.	C-5	SECTIONS

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
16 FEB 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

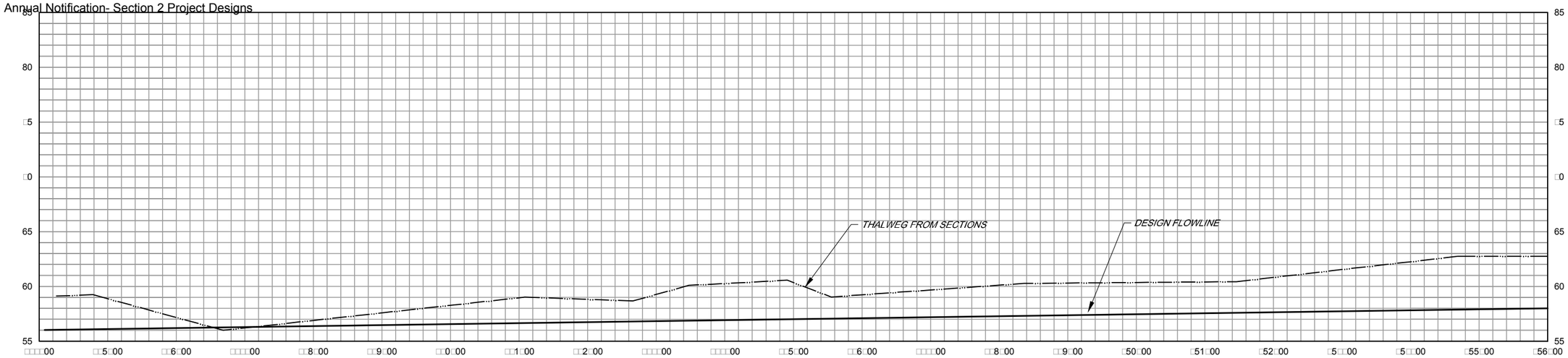
SCALE: AS SHOWN
DATE: 1/18/2011
DRAWN: ----
REVIEWED:

SANTA ROSA CREE□

LOCATION □ VICINITY MAP,

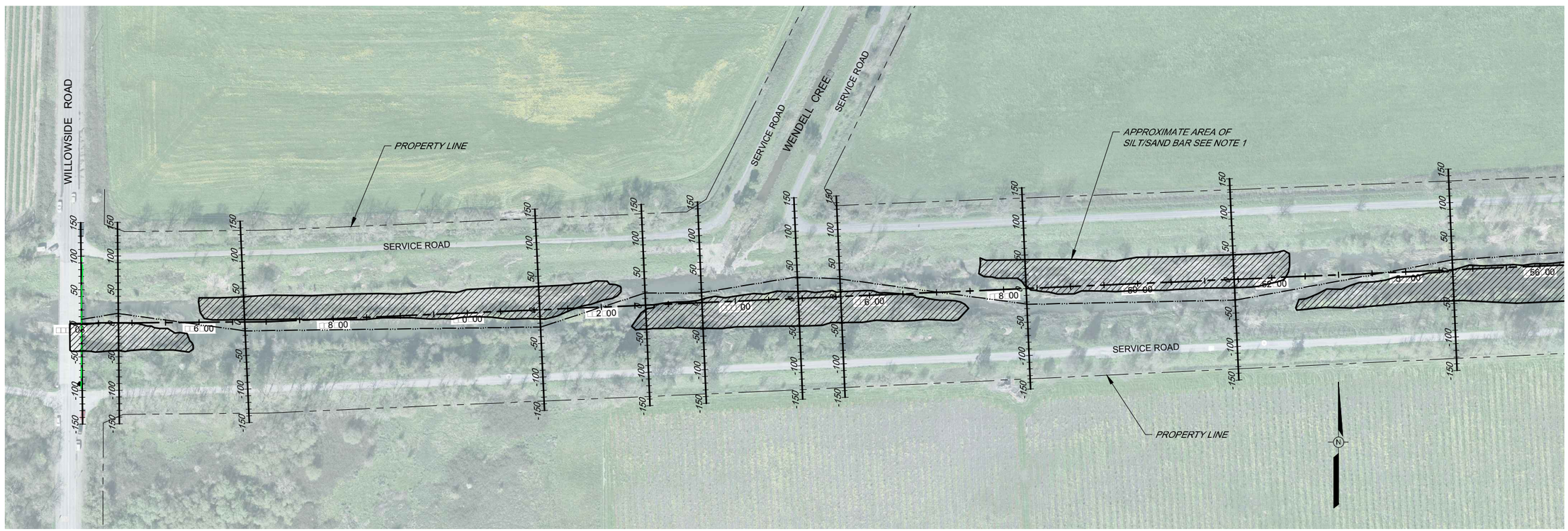
FILE NAME: 2011-G_SR-CR□
CONTRACT NUMBER:
DRAWING NUMBER: G-1
SHEET 1 O

\\Sd-d: t:\Proj\flood control\ on : 1:1S nt Ro:: \2011_M. nt\ n nc□



PROFILE

SCALE: HORIZ. 1" 80
VERT 1" 5



PLAN

SCALE: 1" 80

NOTES:

1. SEDIMENT REMOVAL WILL BE BELOW O.H.W. AND OUTSIDE OF EXISTING SUMMER STREAM FLOW. SEE DRAWING NO. C- FOR DETAILS.

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
16 FEB 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

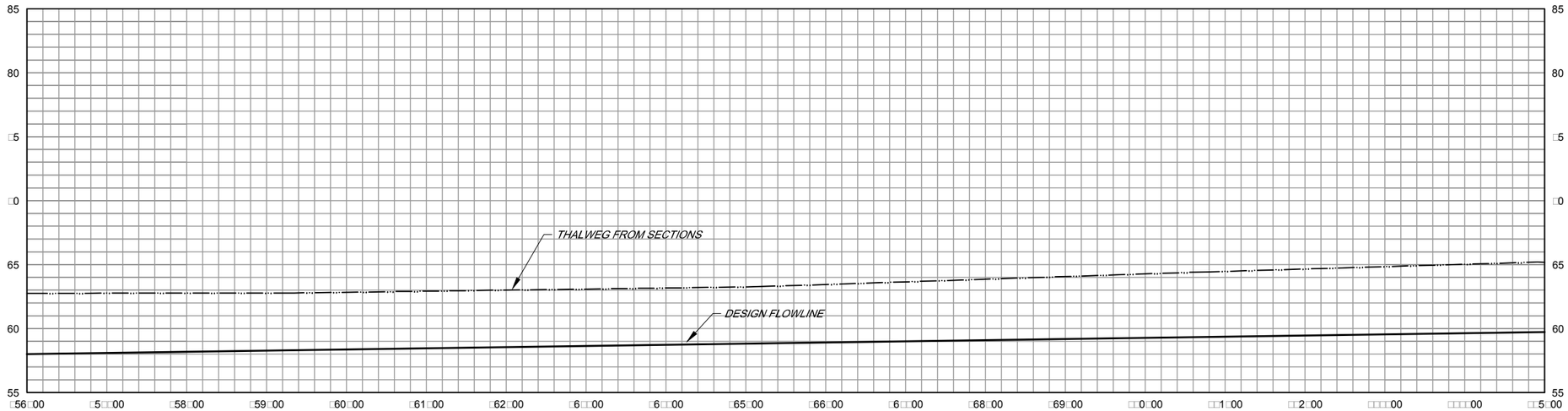
SCALE: AS SHOWN
DATE: 1/18/2011
DRAWN: ADF
REVIEWED:

SANTA ROSA CREE

PLAN AND PROFILE STA 00 TO STA 56 00

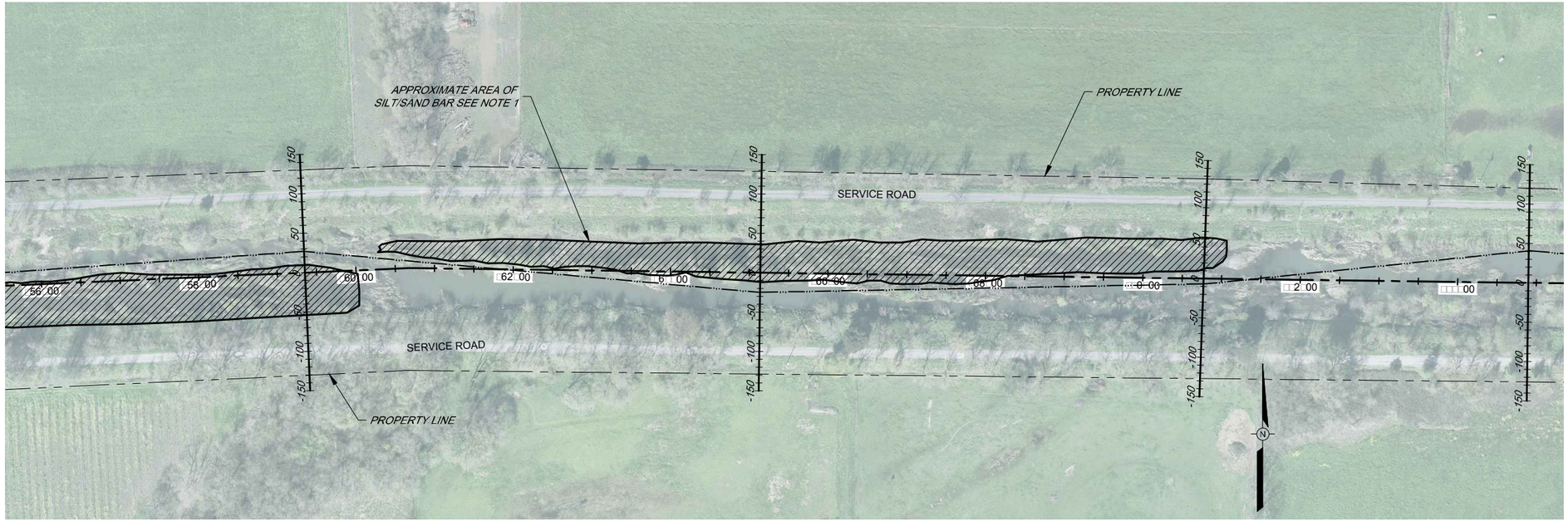
FILE NAME: 2011_SR_C
CONTRACT NUMBER:
DRAWING NUMBER: C-1
SHEET 2 OF 5

\\Sd-1 I:\Proj\flood control\ on : 1 \S nt Ro : \2011_M nt n nc :



PROFILE

SCALE: HORIZ. 1" = 80'
VERT 1" = 5'



PLAN

SCALE: 1" = 80'

NOTES:

1. SEDIMENT REMOVAL WILL BE BELOW O.H.W. AND OUTSIDE OF EXISTING SUMMER STREAM FLOW. SEE DRAWING NO. C-3 FOR DETAILS.

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
16 FEB 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

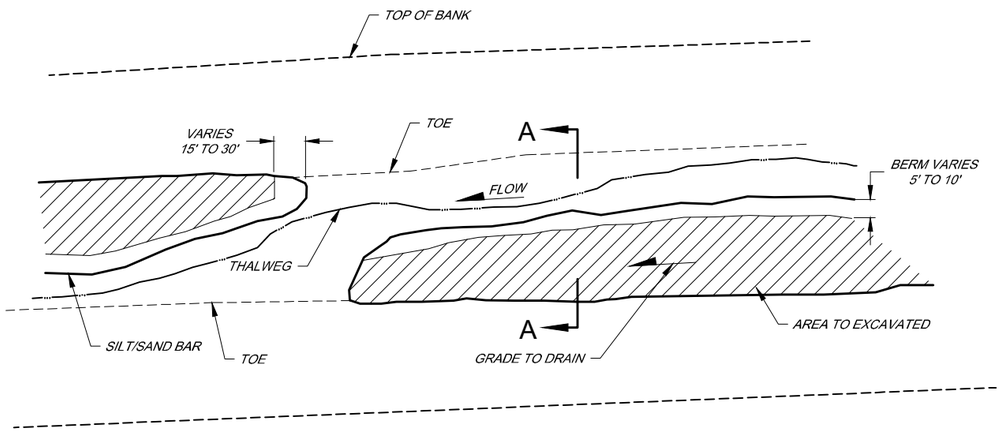
SCALE: AS SHOWN
DATE: 1/18/2011
DRAWN: ADF
REVIEWED:

SANTA ROSA CREEK

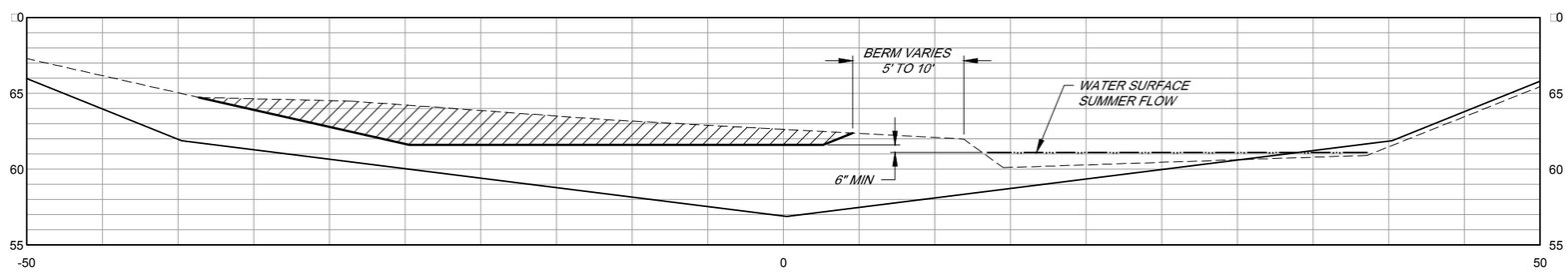
PLAN AND PROFILE STA 56+00 TO STA 75+00

FILE NAME: 2011_SR_C
CONTRACT NUMBER:
DRAWING NUMBER: C-2
SHEET 3 OF 5

\\Sd-d.t.1\Proj\flood control\ on : 1 \S ml Ro 13211_M_ml n nc



TYPICAL PLAN
NOT TO SCALE



TYPICAL SECTION A-A
NOT TO SCALE

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH; ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
16 FEB 2011

NO.	DATE	REVISION	BY

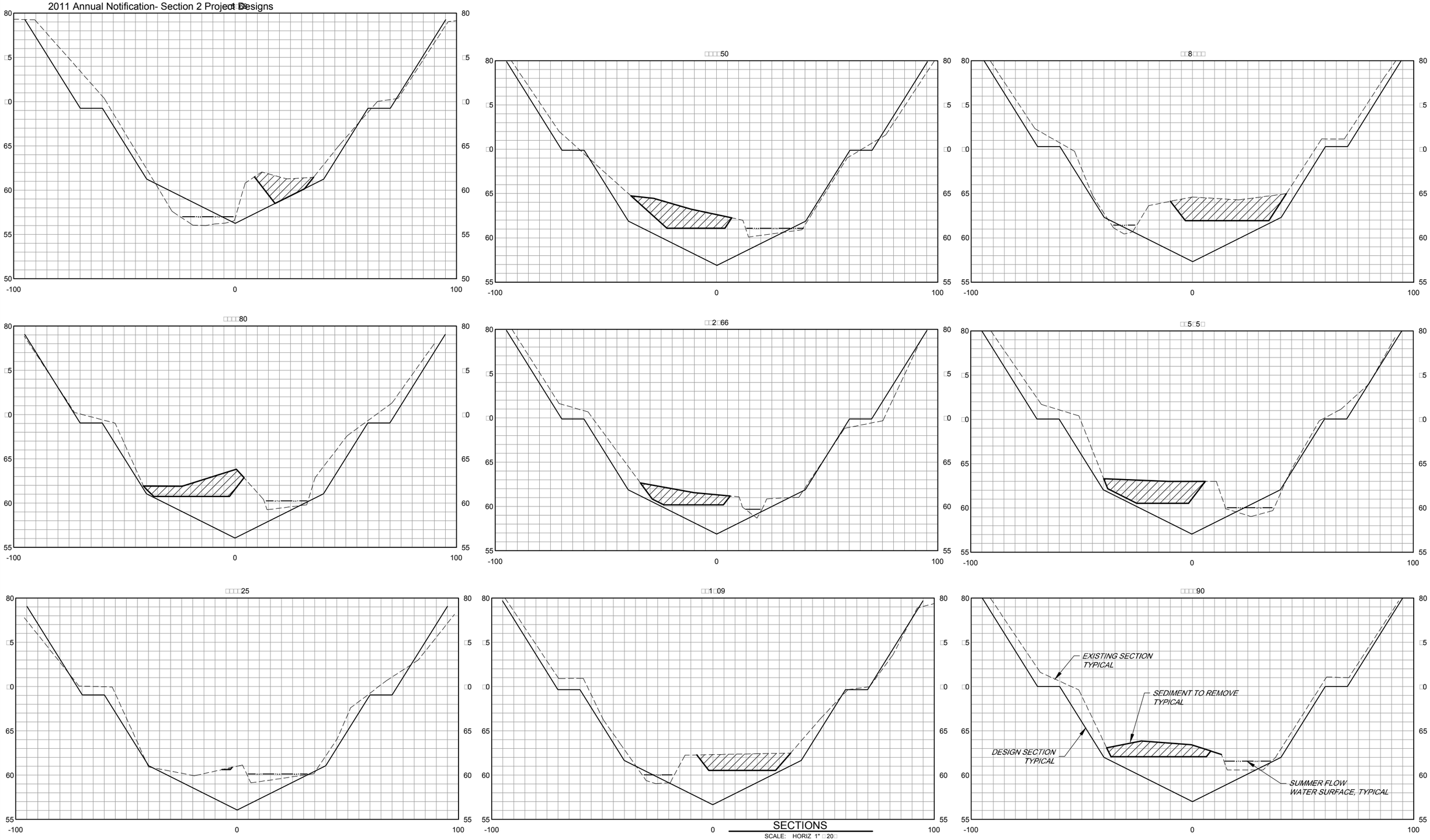
SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: 1/18/2011
DRAWN: ADF
REVIEWED:

SANTA ROSA CREE
TYPICAL DETAILS

FILE NAME: 2011_SR_C
CONTRACT NUMBER:
DRAWING NUMBER: C-
SHEET OF 5

\\Sd-d.1.1\Proj\flood control\ on : 1 IS mt Ro : \2011_M mt n nc



SECTIONS

SCALE: HORIZ 1" 20
VERT 1" 5

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH, ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
16 FEB 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

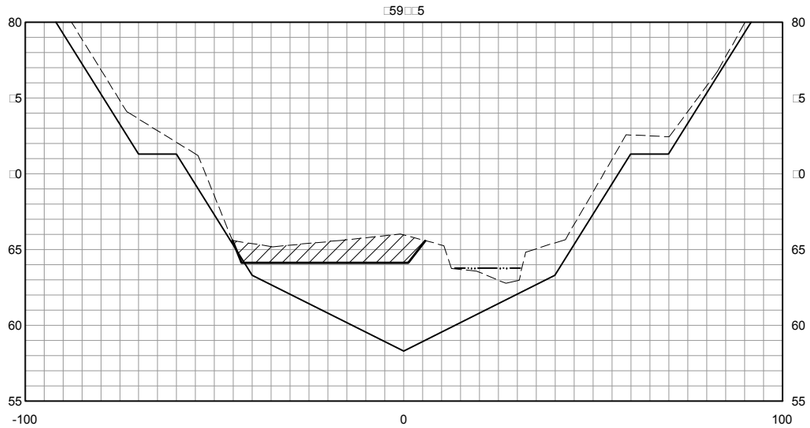
SCALE: AS SHOWN
DATE: 1/18/2011
DRAWN: ADF
REVIEWED:

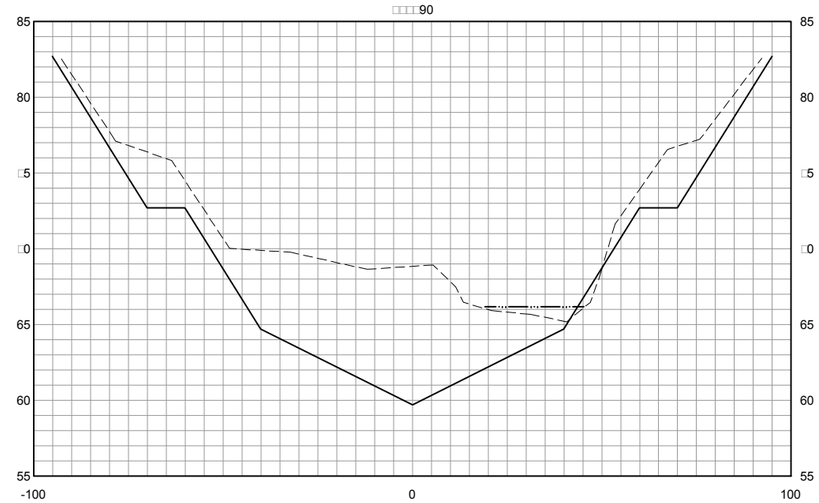
SANTA ROSA CREE

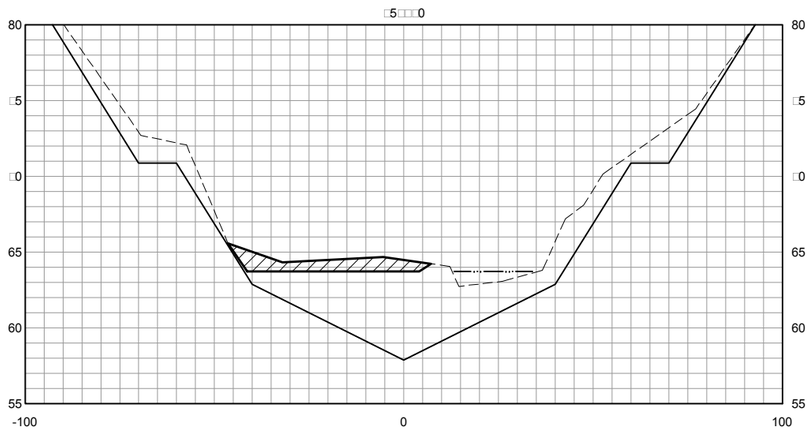
SECTIONS

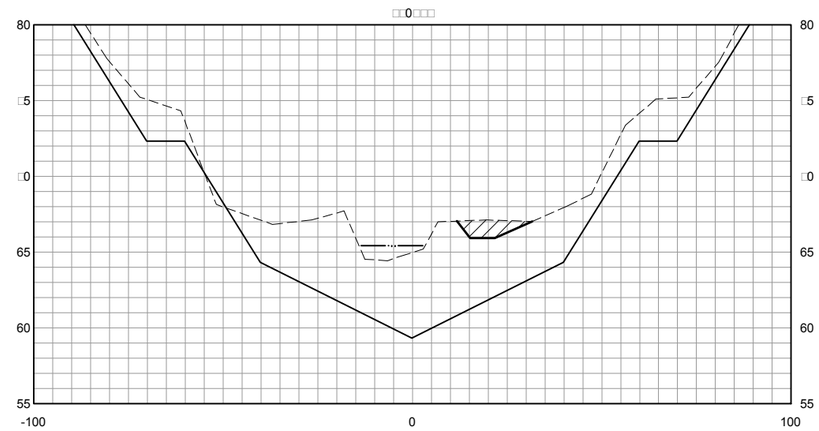
FILE NAME: 2011_SR_C
CONTRACT NUMBER:
DRAWING NUMBER: C-
SHEET 5 OF 5

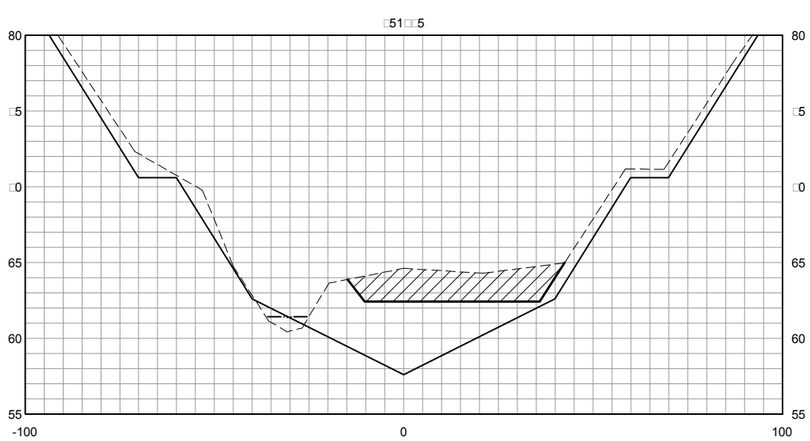
\\Sd-d.t.l\Proj\flood control\ on : 1 :S ,nt. Ro :\2011_M .nt\ n.nc

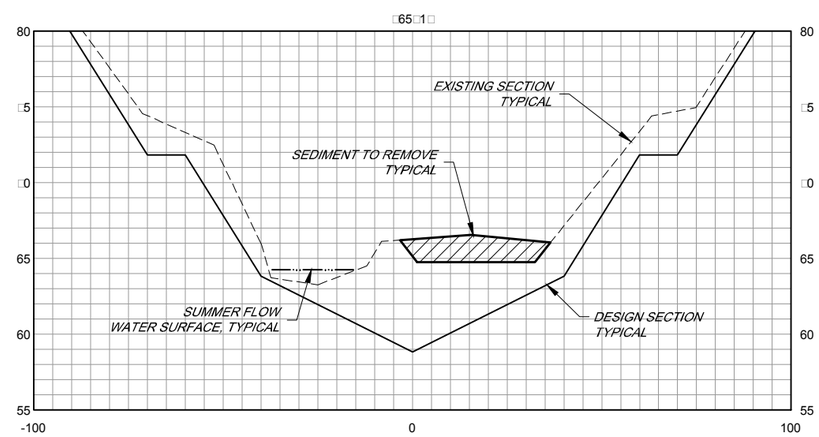












PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
16 FEB 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

SECTIONS
SCALE: HORIZ 1" 20
VERT 1" 5

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: 1/18/2011
DRAWN: ADF
REVIEWED:

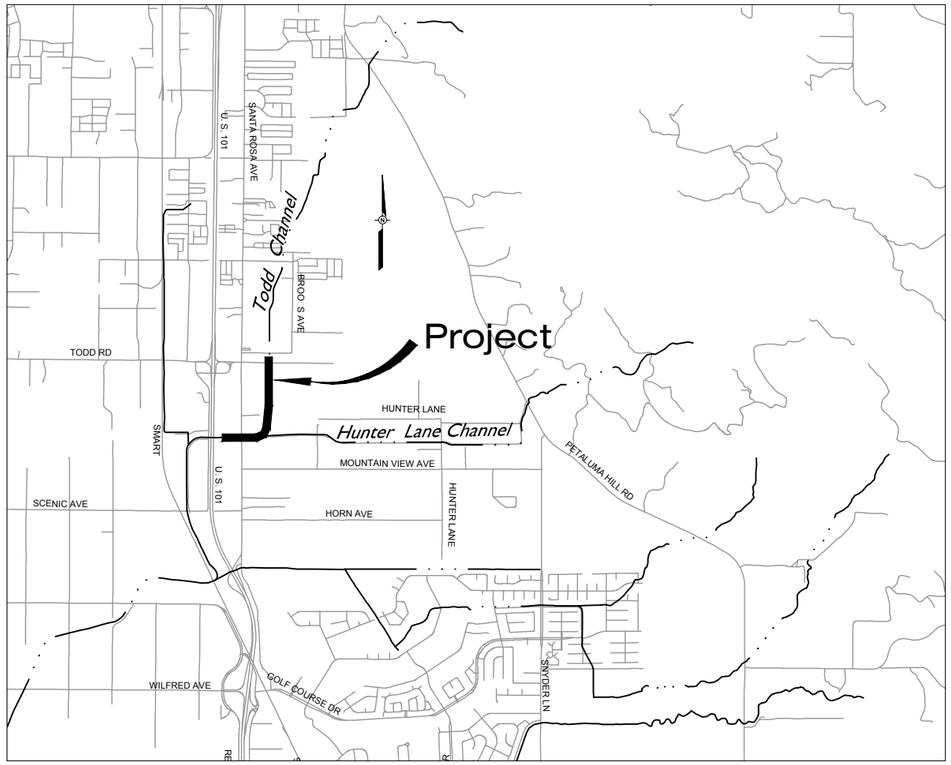
SANTA ROSA CREE

SECTIONS

FILE NAME: 2011_SR_C
CONTRACT NUMBER:
DRAWING NUMBER: C-5
SHEET 6 OF 5

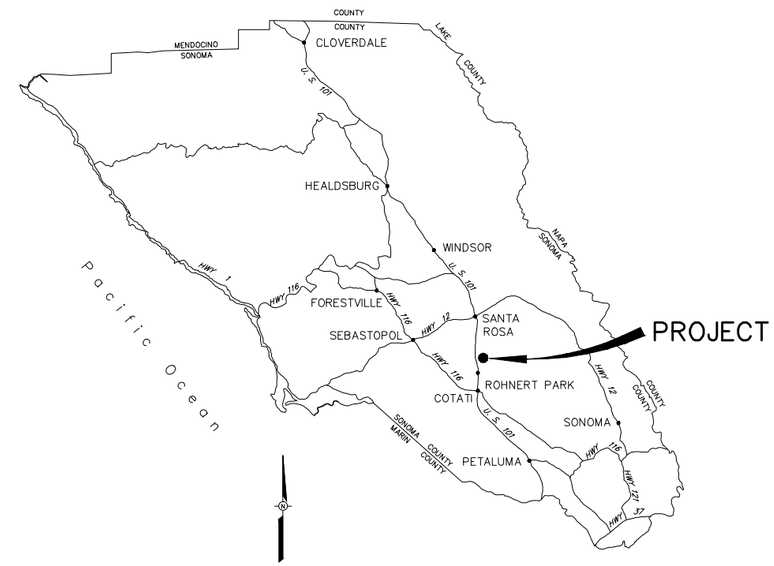
\\Sd-d 1 \Proj\flood control\ on : 1 \S nt Ro :\2011_M nt n nc :

TODD CHANNEL SEDIMENT REMOVAL



VICINITY MAP

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

TODD CHANNEL						
WORK TO BE DONE WITHIN CHANNEL						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH □LINEAR FT.□	AVERAGE WIDTH □LINEAR FT.□	AREA □S□UARE FT.□	DEPTH □FT.□	C.Y. □TO REMOV/FILL□
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED CHANNEL.	STATION □8□96 TO STATION 60□19	1,12□	28.8	□2,□□2 BELOW OHW	1.6	1,916 BELOW OHW □TO REMOVE□
BAN□ REPAIR PLACING FILL USING EXCAVATOR OR FRONT END LOADER OPERATING FROM SERVICE ROAD.	STA 61□1□ TO STA 61□8□	□□	6	□□8 BELOW OHW	2	□2 □ROC□ RIPRAP□ BELOW OHW □FILL□
ACCUMULATED SEDIMENT REMOVAL, VARIOUS LOCATIONS ALONG THIS REACH OF TODD CHANNEL, USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED CHANNEL.	STA 6□□00 TO STA □6□00	□00	1□.5	5□00 BELOW OHW	1	200 BELOW OHW □TO REMOVE□
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED CHANNEL.	STA □6□15 TO STA 80□05	□90	15	1150 ABOVE OHW □□00 BELOW OHW TOTAL □ 5850	1.5	29 ABOVE OHW 296 BELOW OHW TOTAL □ □25 □TO REMOVE□

INDEX TO DRAWINGS:

SHEET NO.	DRAWING NO.	TITLE
1.	G-1	INDEX TO DRAWINGS, TABLE, LOCATION & VICINITY MAPS
2.	C-1	PLAN, PROFILE STA 48+00 TO STA 58+00
3.	C-2	PLAN AND SECTIONS STA 58+00 TO STA 62+00
4.	C-3	CROSS SECTIONS STA 48+96 TO 60+18
6.	C-4	BANK REPAIR STA 61+14 TO STA 61+87
7.	C-5	PLAN AND PROFILE STA 63+00 TO STA 76+00
8.	C-6	PLAN AND PROFILE STA 76+00 TO STA 80+50
9.	C-7	CROSS SECTIONS STA 76+15 TO STA 80+05

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
8 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

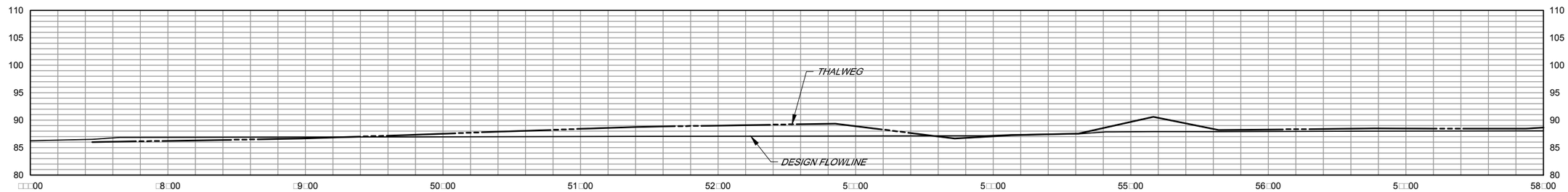
SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: 2/22/2011
DRAWN: ADF
REVIEWED:

TODD CHANNEL
INDEX TO DRAWINGS, TABLE, LOCATION □ VICINITY MAPS

FILE NAME: TODD-2011_G
CONTRACT NUMBER:
DRAWING NUMBER: G-1
SHEET 1 OF 8

\\Sd-data\Proj\flood control\zone 1a\TODD\2011_MAINTENANCE\TODD-2011_G



PROFILE .

SCALE HORIZ 1" □ □0□
VERT 1" □ 10□

PLAN .

SCALE 1" □ □0□

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
8 MAR 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

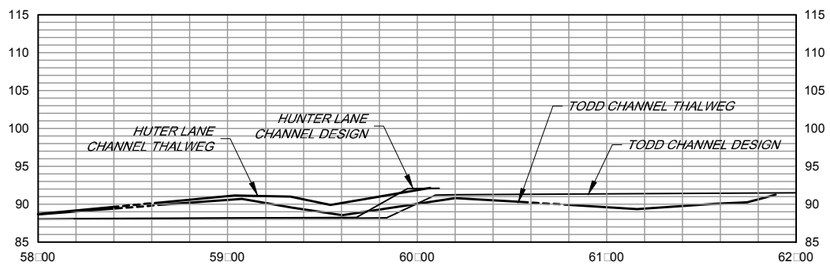
SCALE: AS SHOWN
DATE: 2/22/2011
DRAWN: ADF
REVIEWED:

TODD CHANNEL

PLAN AND PROFILE STA □8□00 TO STA 58□00

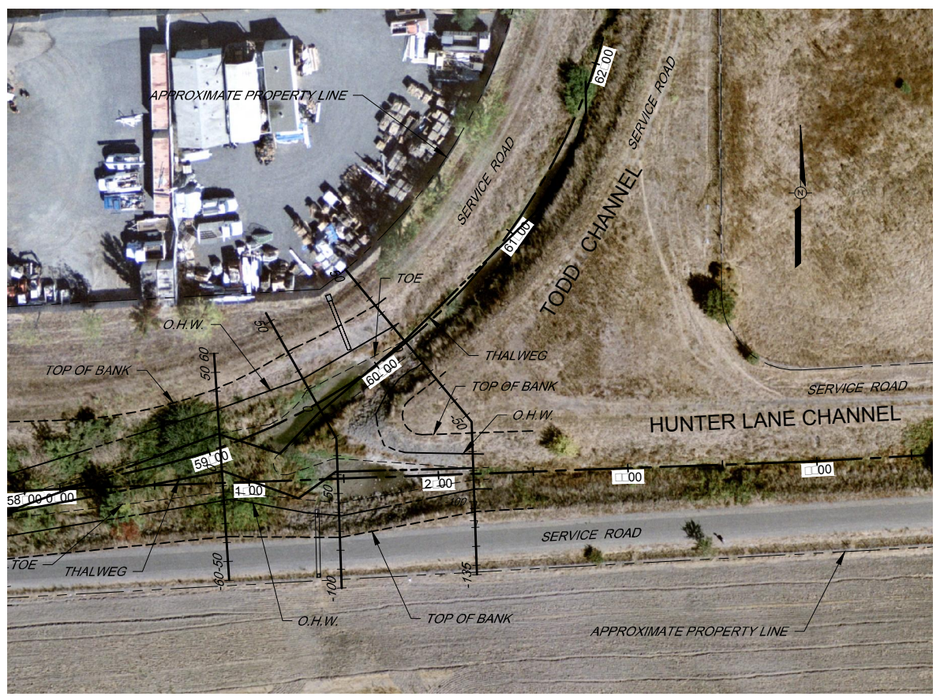
FILE NAME: TODD_2011_C1
CONTRACT NUMBER:
DRAWING NUMBER: C-1
SHEET 2 OF 8

\\SD-DATA\Proj\flood control\ on : 1:\TODD\2011_MAINTENANCE



PROFILE .

SCALE HORIZ 1" □□0□
VERT 1" □10□



PLAN .

SCALE 1" □□0□

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
8 MAR 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: 2/22/2011
DRAWN: ADF
REVIEWED:

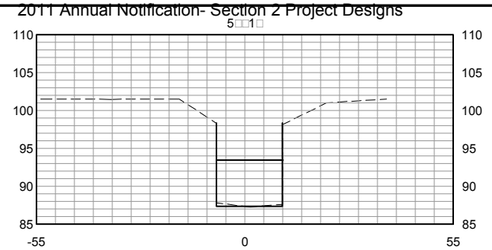
TODD CHANNEL

PLAN AND PROFILE STA 58□00 TO STA 62□00

FILE NAME: TODD_2011_C1
CONTRACT NUMBER:
DRAWING NUMBER: C-2
SHEET □ OF 8

\\SD-DATA\Proj\flood control\ on : 1:\TODD\2011_MAINTENANCE

5□□1□



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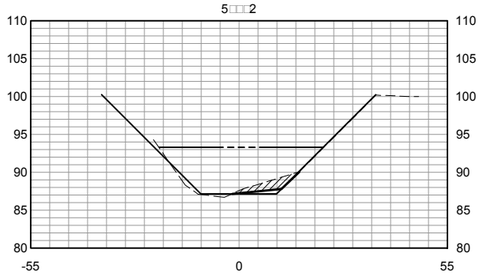
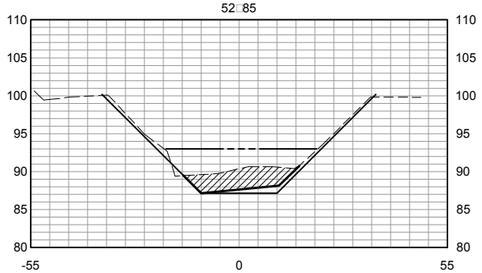
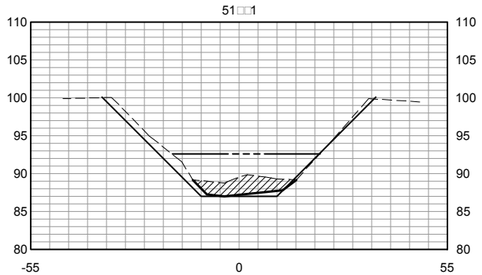


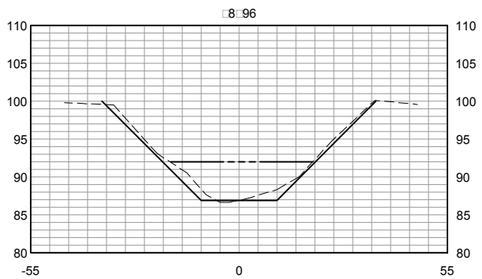
52□85



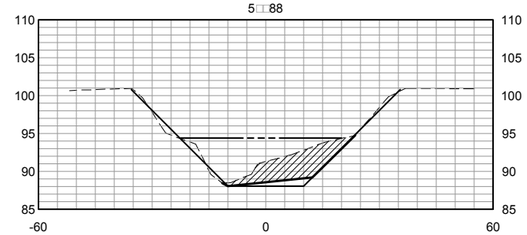
51□□1



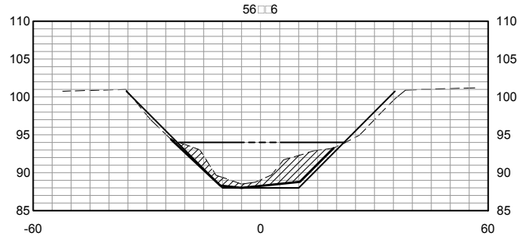
□8□96



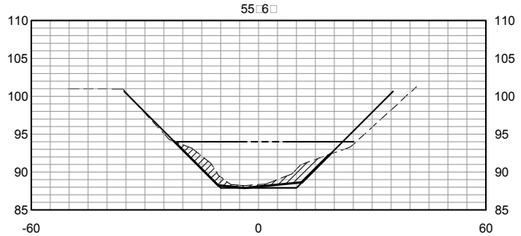
5□□88



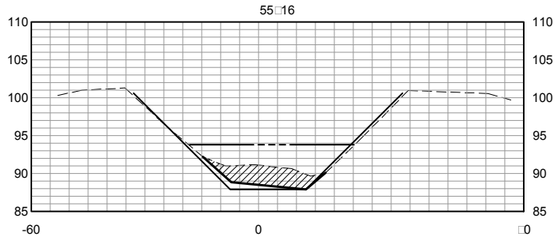
56□□6



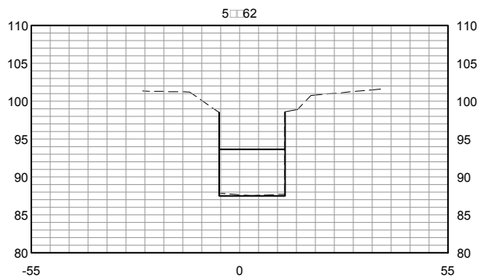
55□6□



55□16



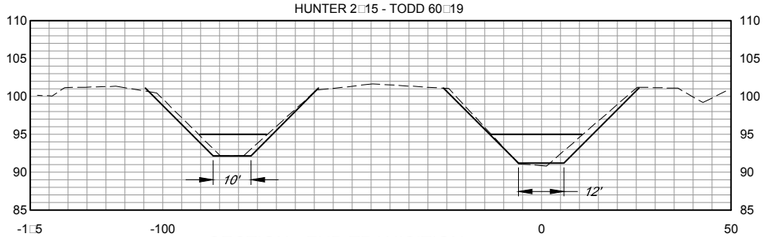
5□□62



SECTIONS .

SCALE HORIZ 1" □20□
VERT 1" □ 10□

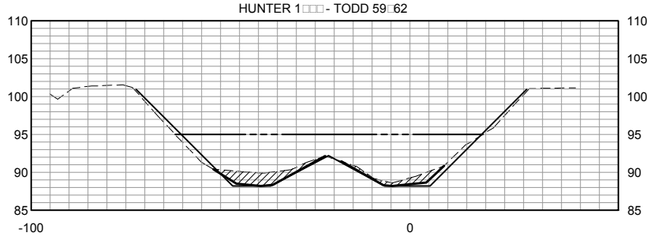
HUNTER 2□15 - TODD 60□19



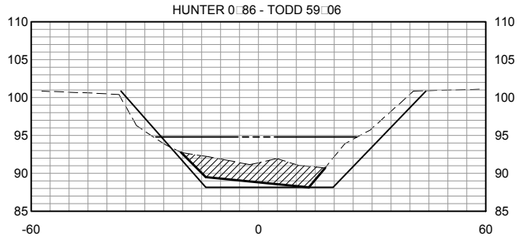
SECTION - END TRANISITION .

SCALE HORIZ 1" □20□
VERT 1" □ 10□

HUNTER 1□□□ - TODD 59□62



HUNTER 0□86 - TODD 59□06



SECTIONS - TRANISTION .

SCALE HORIZ 1" □20□
VERT 1" □ 10□

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
8 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

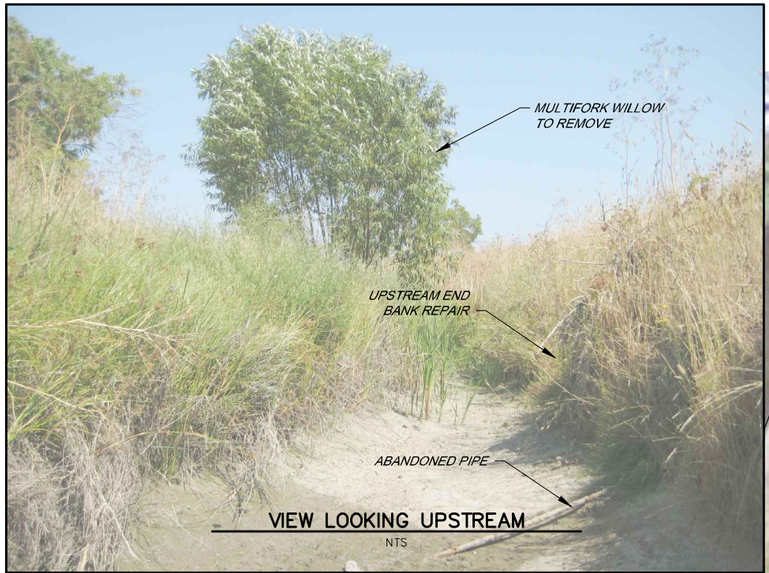
SCALE: AS SHOWN
DATE: 2/22/2011
DRAWN: ADF
REVIEWED:

TODD CHANNEL

SECTIONS STA □8□96 TO STA 60□18

FILE NAME: TODD_2011_C1
CONTRACT NUMBER:
DRAWING NUMBER: C-□
SHEET □ OF 8

\\SD-DATA\Proj\flood control\ on : 1.1TODD\2011_MAINTENANCE



VIEW LOOKING UPSTREAM

NTS

PLAN

SCALE: 1"= 10'

VIEW LOOKING DOWNSTREAM

NTS

BAN□ REPAIR
FILL BELOW OHWM
ROC□ RIPRAP
□8 □□ ft.
□2 c□ □d□

GENERAL NOTE:
FIGURE 5-6 TYPICAL SECTION OF SMP MANUAL FOR BAN□ STABILIZATION DESIGN WILL BE USED FOR BAN□ REPAIRS.

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
8 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

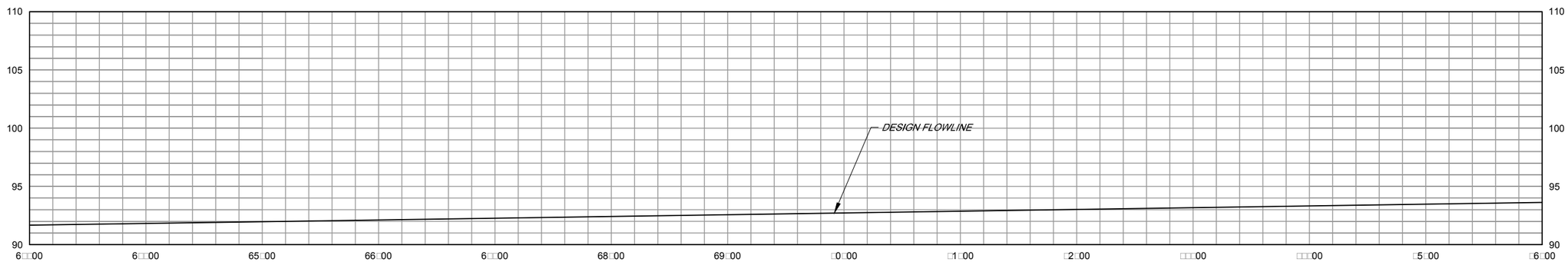
SCALE: AS SHOWN
DATE: 2/22/2011
DRAWN: ADF
REVIEWED:

TODD CHANNEL

BAN□□ REPAIR STA 61□1□ TO 61□8□

FILE NAME: TODD_2011_C2
CONTRACT NUMBER:
DRAWING NUMBER: C-□
SHEET 5 OF 8

\\SD-DATA\Proj\flood control\zone 1a\TODD\2011_MAINTENANCE\TODD_2011_C2



PROFILE .

SCALE HORIZ 1" □50□
VERT 1" □5□

PLAN .

SCALE 1" □50□

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
8 MAR 2011

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE : AS SHOWN
DATE : 2/22/2011
DRAWN : ADF
REVIEWED :

TODD CHANNEL

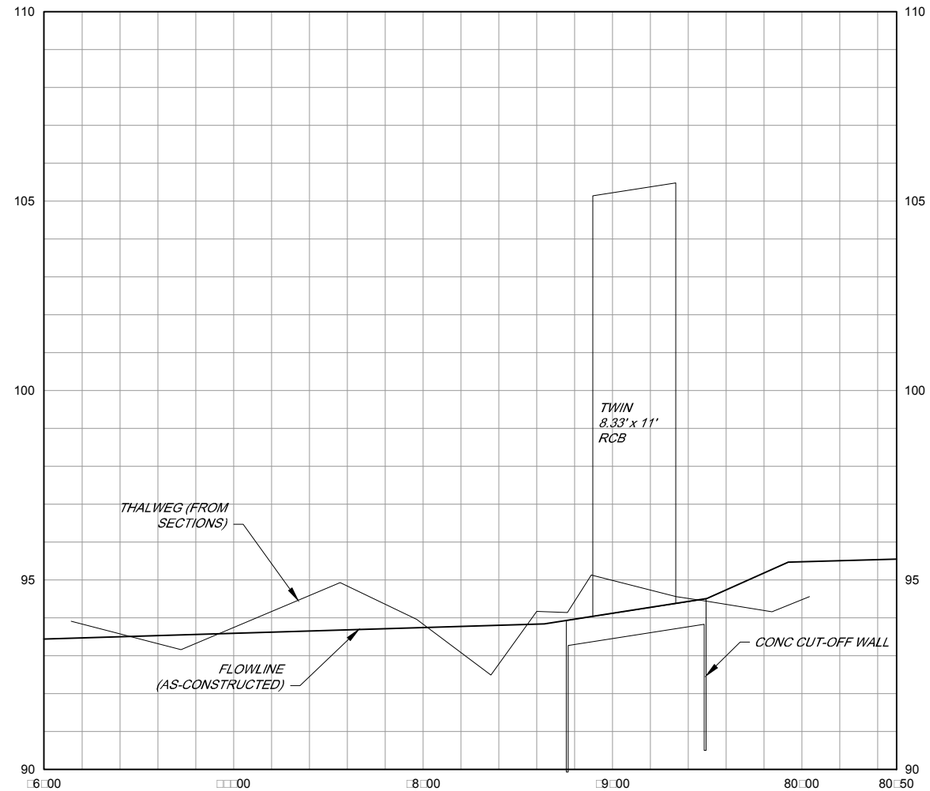
PLAN AND PROFILE STA 6□□00 TO STA □6□00

FILE NAME: TODD_2011_C1
CONTRACT NUMBER:
DRAWING NUMBER: C-5
SHEET 6 OF 8

\\SD-DATA\Proj\flood control\ on : 1:\TODD\2011_MAINTENANCE

PLAN .

SCALE 1" □ □0□



PROFILE .

SCALE HORIZ 1" □ □0□

VERT 1" □ 2□

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90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
8 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

\\SD-DATA\Proj\flood control\zone 1a\TODD\2011_MAINTENANCE\TODD_2011_C2

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE : AS SHOWN

DATE : 2/22/2011

DRAWN : ADF

REVIEWED :

TODD CHANNEL

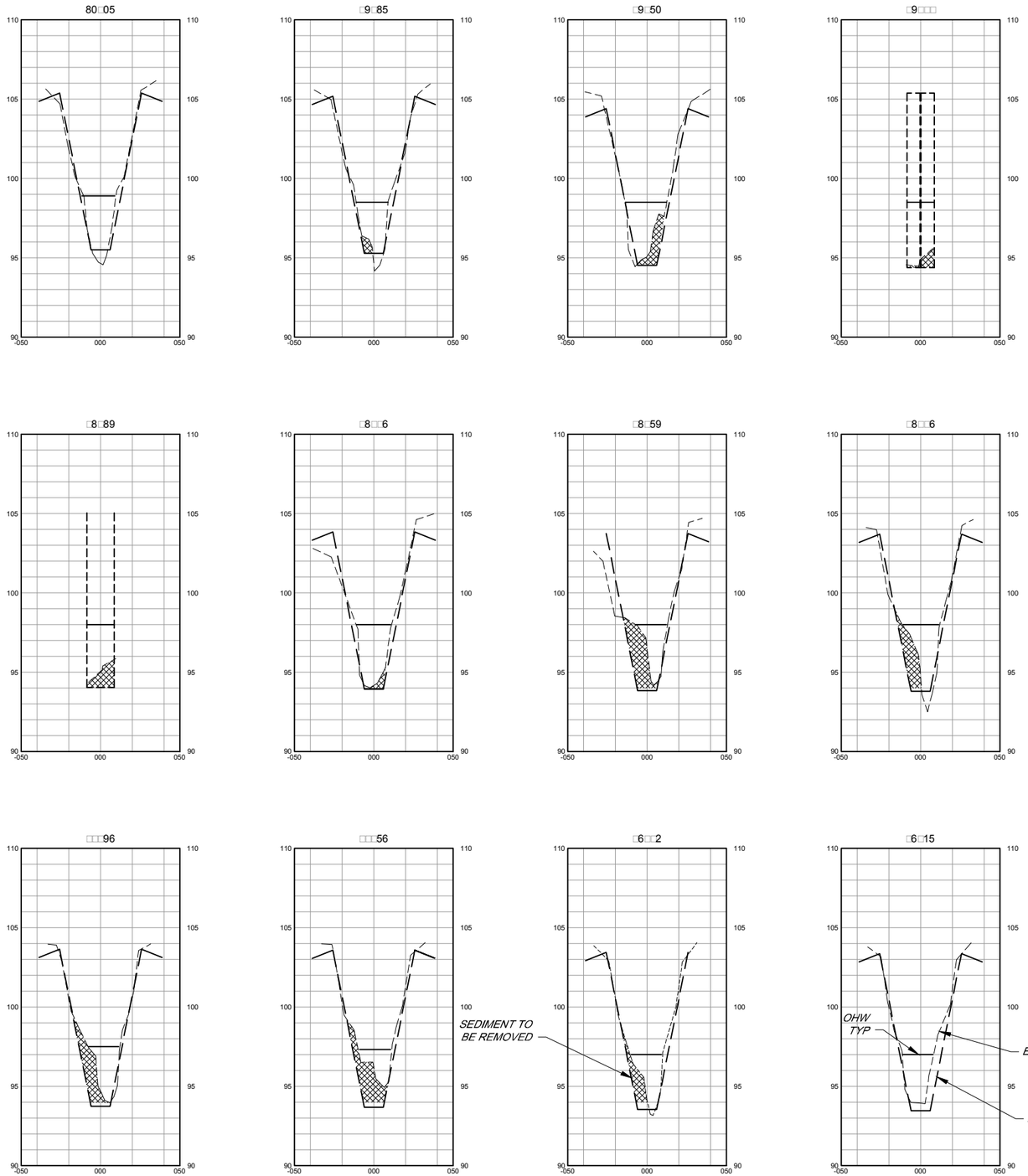
PLAN AND PROFILE STA □6□00 TO STA 80□50

FILE NAME: TODD_2011_C2

CONTRACT NUMBER:

DRAWING NUMBER: C-6

SHEET □ OF 8



PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
8 MAR 2011

SECTIONS

SCALE HORIZ 1" □0□
VERT 1" □2□

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: 2/22/2011
DRAWN: ADF
REVIEWED:

TODD CHANNEL

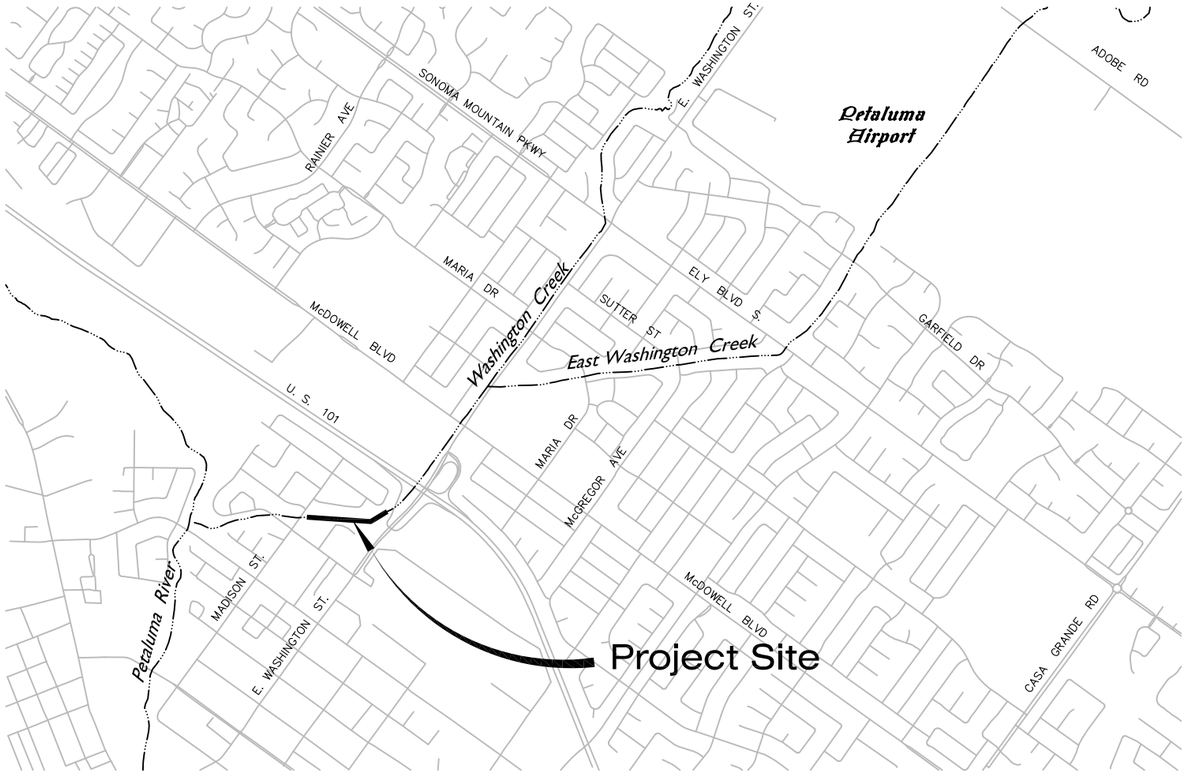
SECTIONS STA □6□15 TO 80□05

FILE NAME: TODD_2011_C2
CONTRACT NUMBER:
DRAWING NUMBER: C-□
SHEET 8 OF 8

\\SD-DATA\Proj\flood control\zone 1a\TODD\2011_MAINTENANCE\TODD_2011_C2

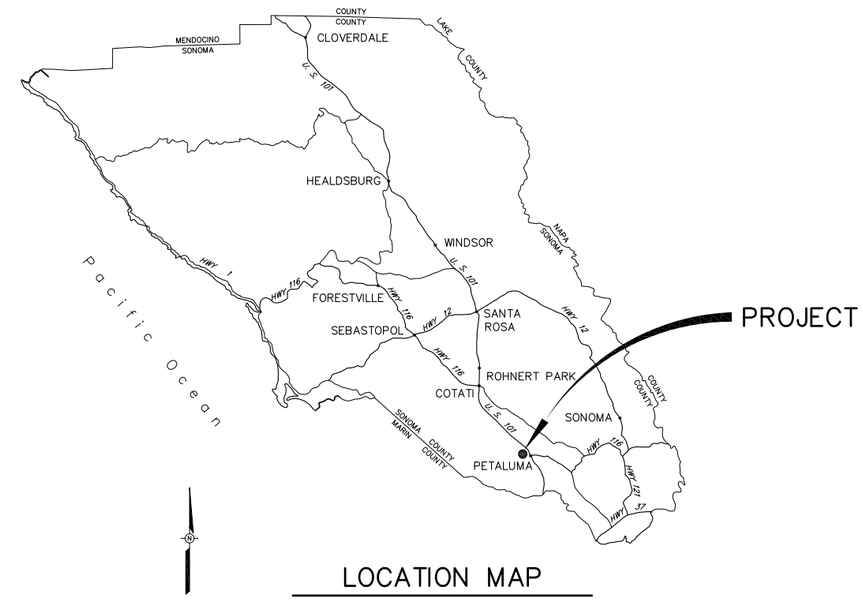
WASHINGTON CREEK SEDIMENT REMOVAL

MADISON STREET TO U.S. 101 OFF-RAMP



VICINITY MAP

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

INDEX TO DRAWINGS:

SHEET NO.	DRAWING NO.	TITLE
1.	G–1	INDEX TO DRAWINGS, LOCATION AND VICINITY MAPS
2.	C–1	PLAN STA 16+00 TO 28+61 AND TABLES

90% SUBMITTAL

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

STAMP
Exp. M/D/Y
STATE OF CALIFORNIA

NO.	DATE	REVISION	BY

PRELIMINARY
SUBJECT TO REVISION

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE : 4/14/09
DRAWN : A. FACENDINI
REVIEWED :

PETALUMA BASIN ZONE 2A
WASHINGTON CREEK SEDIMENT REMOVAL
INDEX TO DRAWINGS, LOCATION AND VICINITY MAPS

FILE NAME: 09-03-04_G.dwg
CONTRACT NUMBER: 2-8009/002-7 #

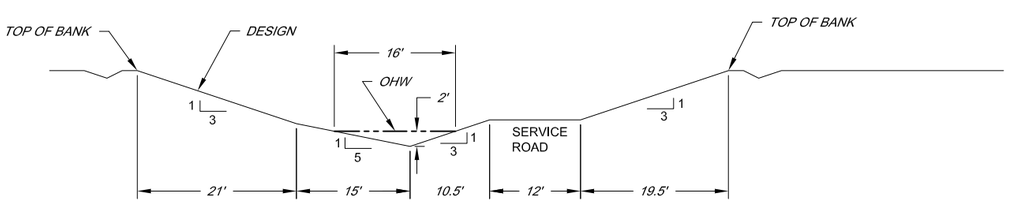
DRAWING NUMBER: G–1

SHEET 1 OF 2

\\Sd-data\Proj\flood control\zone 2a\Washington Creek\sediment-removal\2009-02-24\09-03-04_G

PLAN

SCALE: 1"= 40'



TYPICAL DESIGN SECTION

SCALE: 1"= 10'

WASHINGTON CREEK						
EXCAVATION						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OPERATING FROM SERVICE ROAD	STA 18+50± TO STA 18+80±	30	10	300	2	22
	STA 20+00± TO STA 20+50±	50	10	500	2	37
	STA 22+72± TO STA 23+52±	80	15	1,200	2	89
	STA 24+80± TO STA 25+80±	100	20	2,000	2	148
	TOTAL = 260		TOTAL = 4,000		TOTAL = 296	

90% SUBMITTAL

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
SUBJECT TO REVISION

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

SCALE: AS SHOWN
DATE: 4/14/09
DRAWN: ----
REVIEWED:

PETALUMA BASIN ZONE 2A
WASHINGTON CREEK SEDIMENT REMOVAL
STA 16+00 TO STA 28+61

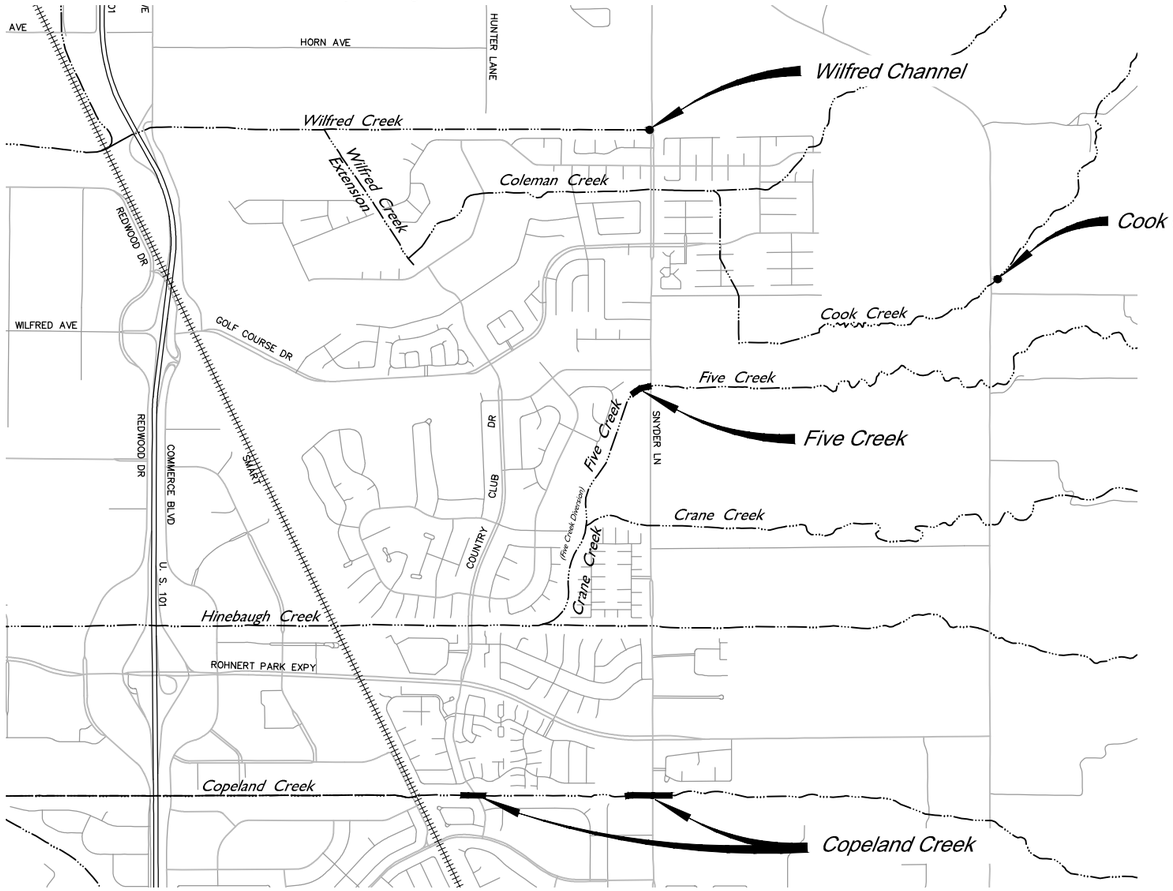
FILE NAME: MADISON_US-101.dwg
CONTRACT NUMBER: ##########

DRAWING NUMBER: C-1

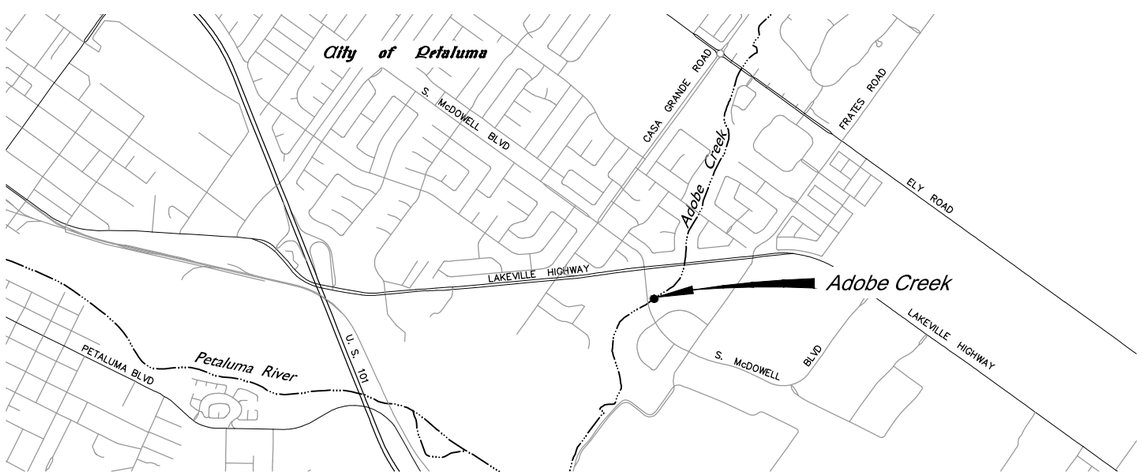
SHEET 2 OF 2

\\SI-data\Proj\flood control\zone 2a\Washington Creek\sediment-removal\2009-02-24\MADISON_US-101

ADOBE, COOK, COPELAND, FIVE, AND WILFRED CREEKS LOCALIZED SEDIMENT REMOVAL



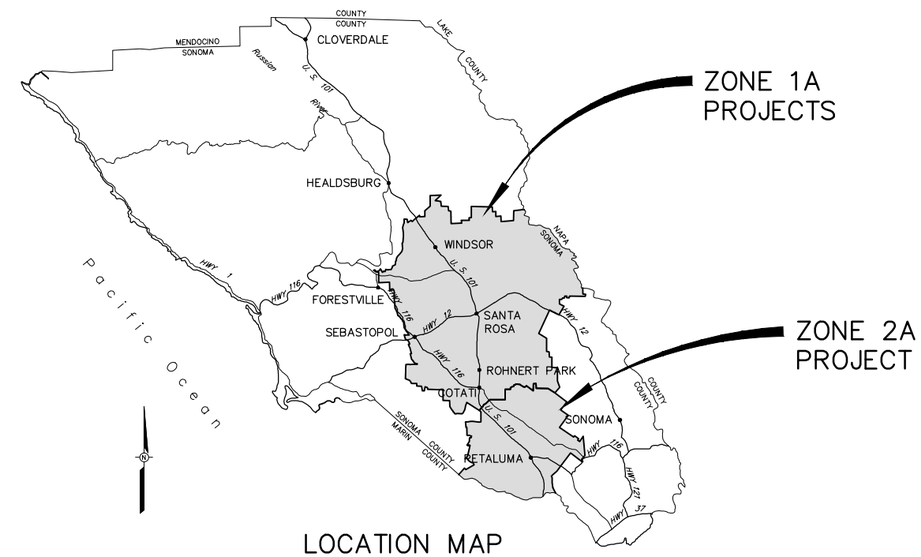
ZONE 1A



ZONE 2A

VICINITY MAP

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

DRAWING INDEX

SHEET NO	DRAWING NO	TITLE
1	G–1	LOCATION AND VICINITY MAPS
2	G–2	DETAILS AND TABLES
3	C–5	FIVE CREEK SEDIMENT REMOVAL PLAN AND PROFILE
4	C–7	FIVE CREEK SEDIMENT REMOVAL CROSS SECTIONS
6	C–3	WILFRED CREEK SEDIMENT REMOVAL
7	C–1	ADOBE CREEK SEDIMENT REMOVAL PLAN
8	C–2	ADOBE CREEK SEDIMENT REMOVAL CROSS SECTIONS
9	C–1	COPELAND CREEK AT COUNTRY CLUB DRIVE SEDIMENT REMOVAL PLAN AND CROSS SECTIONS
10	C–2	COPELAND CREEK AT SNYDER LANE SEDIMENT REMOVAL PLAN AND CROSS SECTIONS
11	C–1	COOK CREEK SEDIMENT REMOVAL

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

NOTE:
ALL EXCAVATION IS BELOW OHW

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

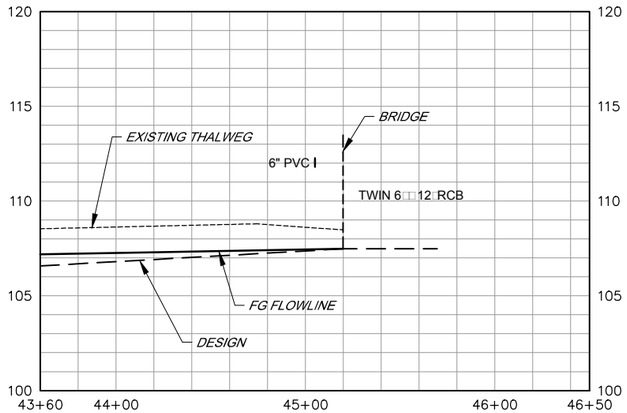
SONOMA COUNTY WATER AGENCY

SCALE : AS SHOWN
DATE : 03/21/11
DRAWN : SMP
REVIEWED :

SEDIMENT REMOVAL – ZONE 1A AND ZONE 2A
LOCATION AND VICINITY MAPS

FILE NAME: 2011SedRemov_BasinAndinstream_Index.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: G–1
SHEET 1 OF 8

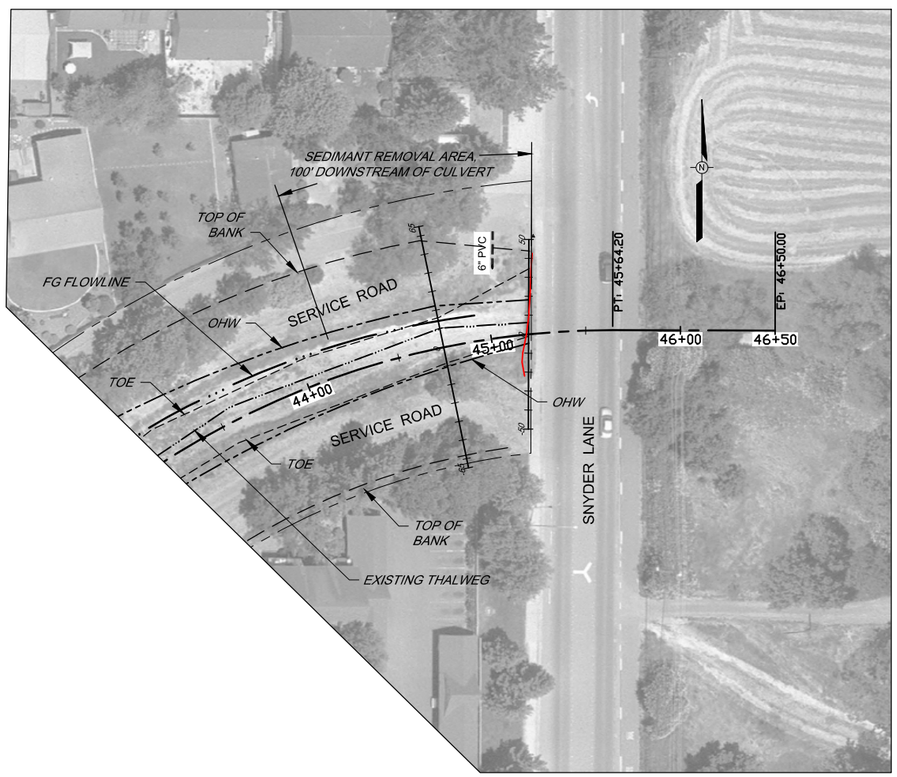
\\SD-DATA\Proj\flood control\zone 1a\FIVE_CRK-deversion\2011\2011SedRemov_BasinAndinstream_Index



PROFILE

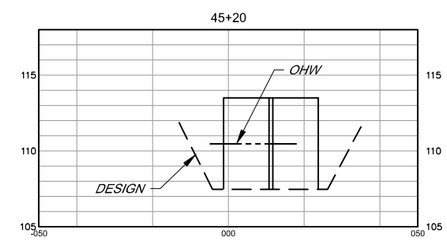
SCALE: HORIZ 1" = 40'
VERT 1"= 4'

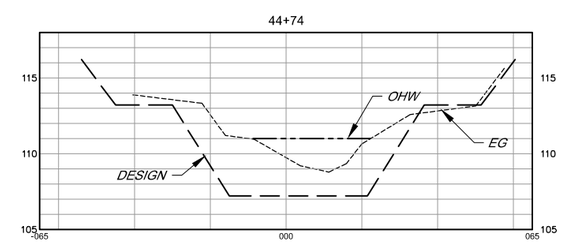
FIVE CREEK						
EXCAVATION						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR FROM SERVICE ROAD AND DOZER IN CHANNEL	STA 44+00 TO STA 45+20	120	40	4,800	1.2	200
	TOTAL = 120		TOTAL = 4,800		TOTAL = 200	



PLAN

SCALE: 1"= 40'





PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

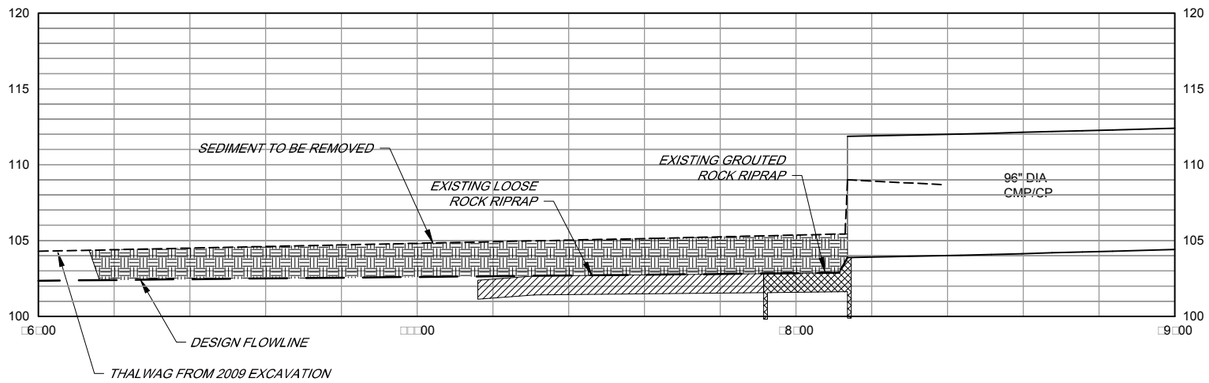
SONOMA COUNTY WATER AGENCY

SCALE : AS SHOWN
DATE : 03/21/11
DRAWN : SMP
REVIEWED :

SEDIMENT REMOVAL – ZONE 1A AND ZONE 2A
FIVE CREE SEDIMENT REMOVAL PLAN, PROFILE, AND CROSS SECTIONS

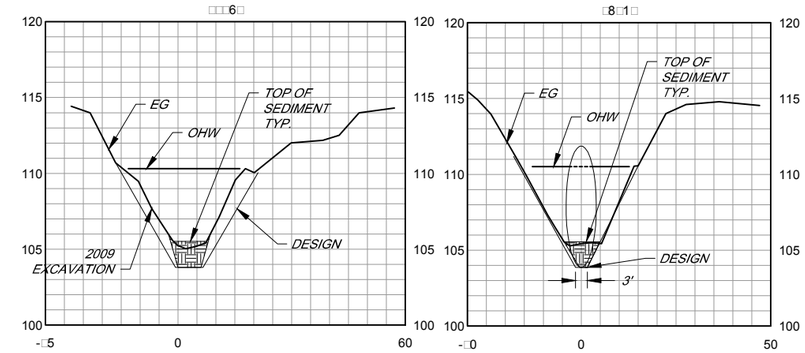
FILE NAME: FIVE_02-17-11_P&P.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: C-5
SHEET 2 OF 8

\\SD-DATA\Proj\flood control\zone 1a\FIVE_CRK-deversion\2011\FIVE_02-17-11_P&P



PROFILE

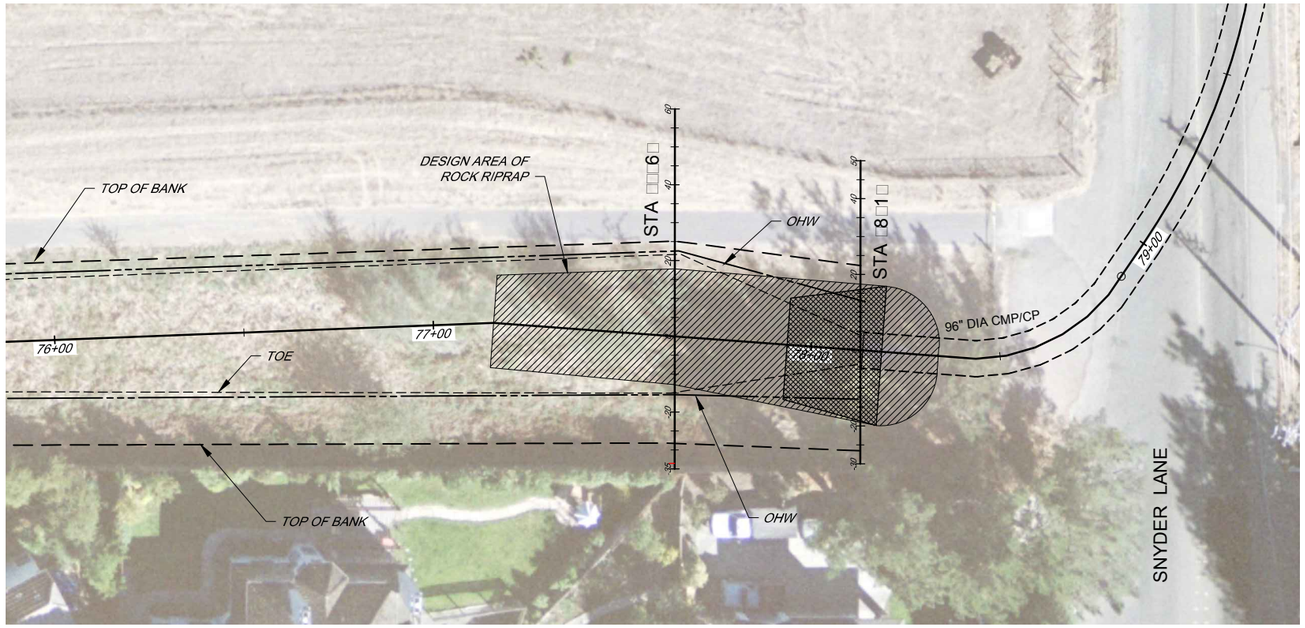
SCALE: HORIZ 1" = 20'
VERT 1"= 5'



SECTIONS

SCALE: HORIZ 1" = 20'
VERT 1"= 5'

WILFRED CREEK						
EXCAVATION						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OPERATING FROM SERVICE ROAD	STA 76+14± TO STA 78+14	200	10	2000	1.5	110



PLAN

SCALE: 1"=20'

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

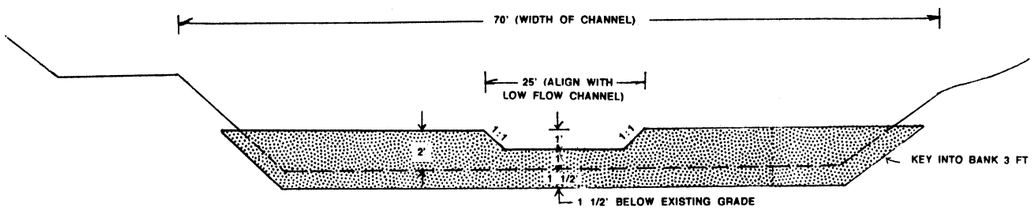
SONOMA COUNTY WATER AGENCY

SCALE : AS SHOWN
DATE : 03/21/11
DRAWN : SMP
REVIEWED :

SEDIMENT REMOVAL – ZONE 1A AND ZONE 2A
WILFRED CREEK SEDIMENT REMOVAL

FILE NAME: C-3.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: C-3
SHEET 3 OF 8

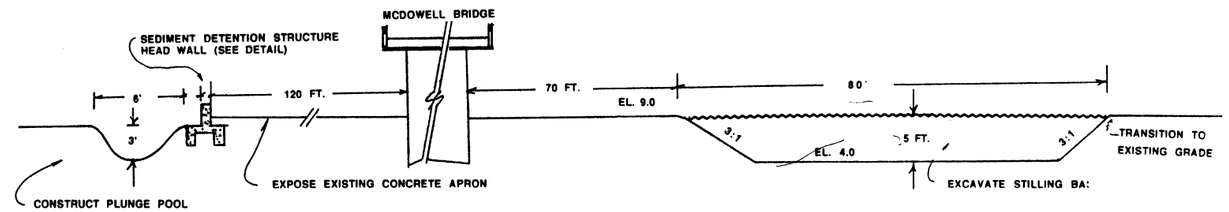
\\SD-DATA\Proj\flood control\zone 1a\WILFRED\2011\C-3



SEDIMENT DETENTION STRUCTURE--FRONT VIEW

N.T.S.

DESIGN



SEDIMENT DETENTION STRUCTURE--PROFILE

N.T.S.

DESIGN

PLAN

SCALE: 1"□ 20□

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING E□UALS ONE INCH. AD□JUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

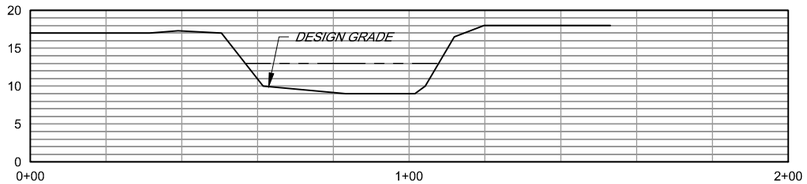
SONOMA COUNTY WATER AGENCY

SCALE : AS SHOWN
DATE : 03/21/11
DRAWN : SMP
REVIEWED :

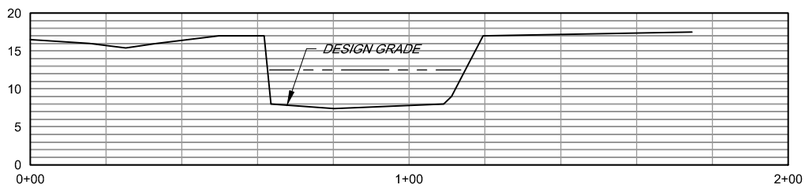
SEDIMENT REMOVAL – ZONE 1A AND ZONE 2A
ADOBE CREE□ SEDIMENT REMOVAL
PLAN

FILE NAME: C-adobe_2011.dwg
CONTRACT NUMBER: ##
DRAWING NUMBER: C-1
SHEET 4 OF 8

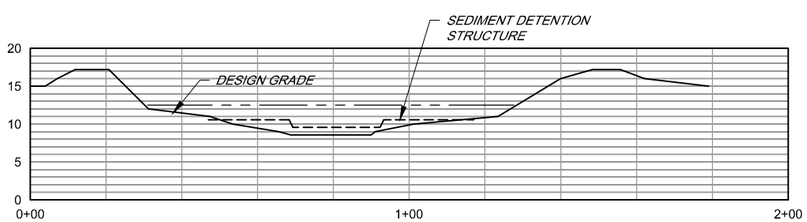
\\SD-DATA\Proj\flood control\ on : 2 \ \ do□ □ cr□ □\SED-BASIN_ do□ □\2011C- do□ □_2011



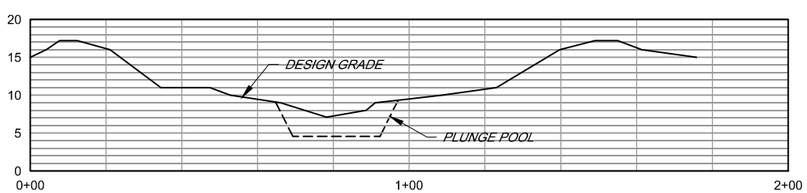
SECTION □



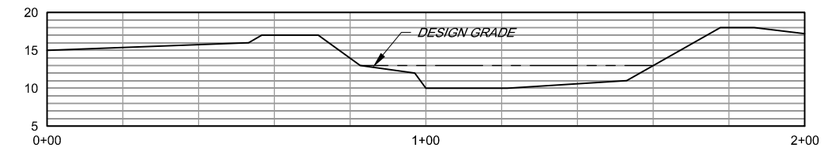
SECTION □



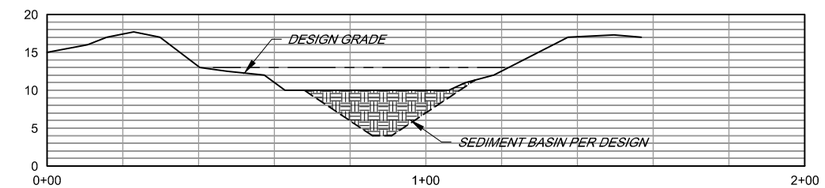
SECTION 2



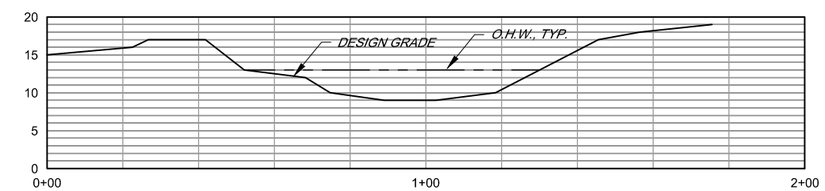
SECTION 1



SECTION □



SECTION 6



SECTION 5

ADOBE CREEK

EXCAVATION

PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH □LINEAR FT.□	AVERAGE WIDTH □LINEAR FT.□	AREA □S□UARE FT.□	DEPTH □FT.□	C.Y. □TO REMOVE□
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OPERATING FROM SERVICE ROAD	N/A	80	□5	□600	□	500

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

NOTE:
SECTIONS DRAWN FROM DESIGN CONTOURS SHOWN ON THE DESIGN PLAN PRIOR TO CONSTRUCTION OF SEDIMENT DETENTION BASIN AND SEDIMENT DETENTION STRUCTURE

BAR LENGTH ON ORIGINAL DRAWING E□UALS ONE INCH. AD□UST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

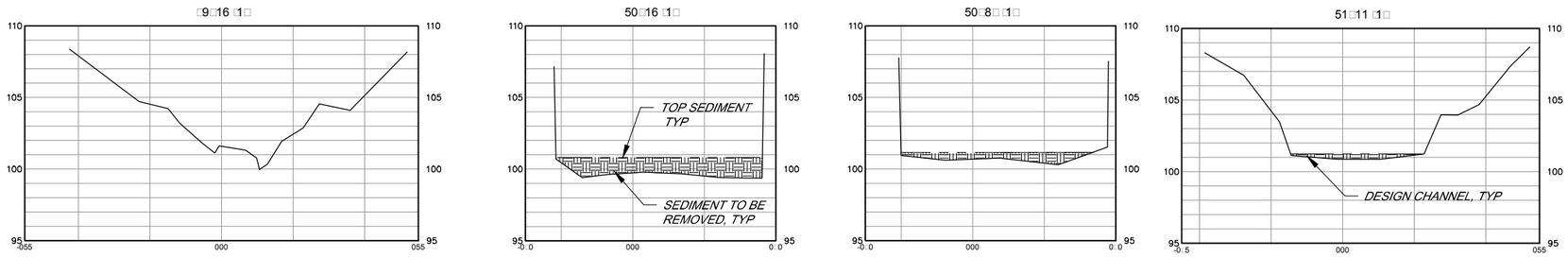
SONOMA COUNTY WATER AGENCY

SCALE : AS SHOWN
DATE : 03/21/11
DRAWN : SMP
REVIEWED :

SEDIMENT REMOVAL – ZONE 1A AND ZONE 2A
ADOBE CREE□ SEDIMENT REMOVAL
CROSS SECTIONS

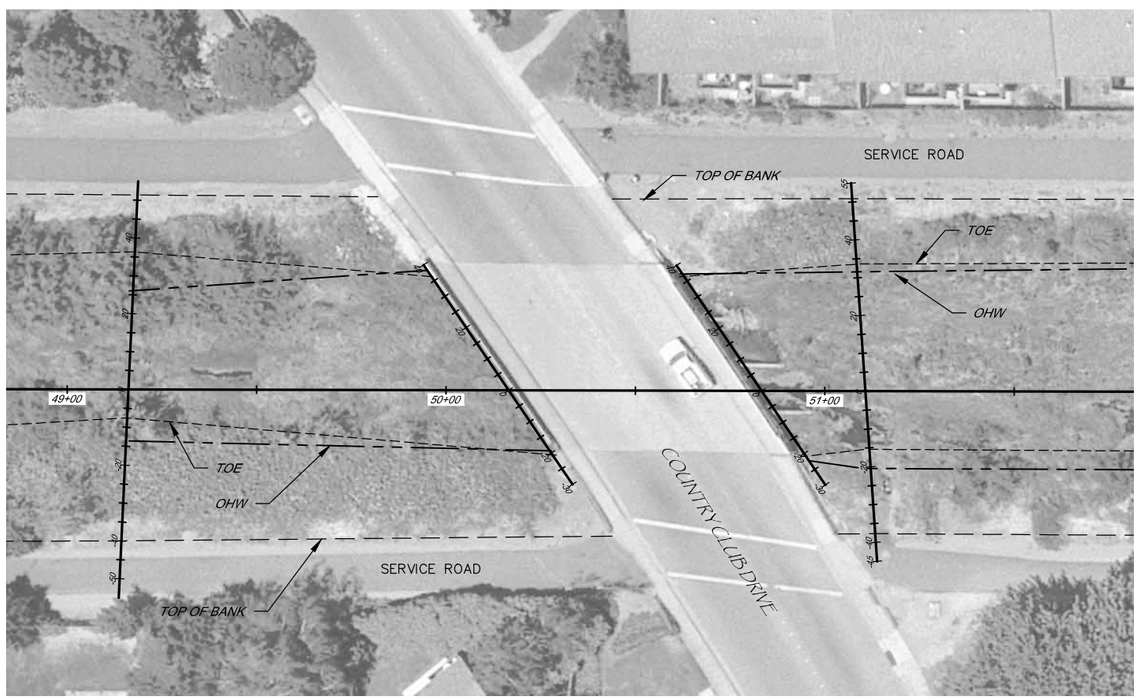
FILE NAME: C-adobe_2011.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: C-2
SHEET 5 OF 8

\\SD-DATA\Proj\flood control\ on □2□\ dc□ cr□□\SED-BASIN_ dc□\2011C- dc□_2011



SECTIONS

SCALE: HORIZ 1" = 20'
VERT 1"= 4'



PLAN

SCALE: 1"= 20'

COPELAND CREEK						
EXCAVATION						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED CHANNEL.	STA 49+60 TO STA 51+60	200	45	9000	1	333

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NOTE:
AERIAL PHOTOGRAPHY FLOWN IN 2000

NO.	DATE	REVISION	BY

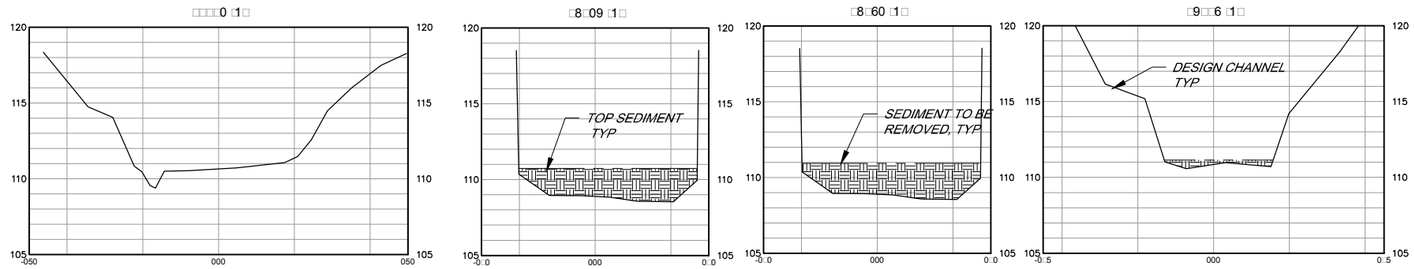
SONOMA COUNTY WATER AGENCY

SCALE : AS SHOWN
DATE : 03/21/11
DRAWN : SMP
REVIEWED :

SEDIMENT REMOVAL – ZONE 1A AND ZONE 2A
COPELAND CREE AT COUNTRY CLUB DRIVE
SEDIMENT REMOVAL PLAN AND CROSS SECTIONS

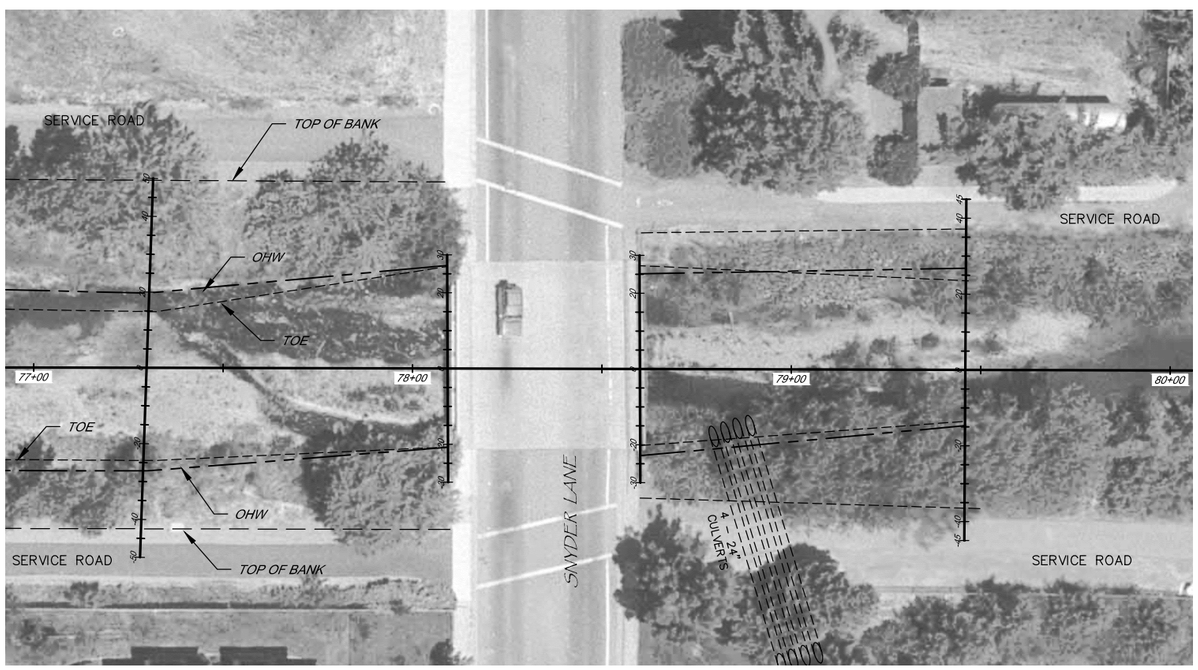
FILE NAME: C1-2_COPELAND.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: C-1
SHEET 6 OF 8

\\SD-DATA\Proj\Flood control\zone 1a\copeland\sediment_removal\2011\C1-2_COPELAND



SECTIONS

SCALE: HORIZ 1" = 20'
VERT 1"= 4'



PLAN

SCALE: 1"= 20'

COPELAND CREEK						
EXCAVATION						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED CHANNEL.	STA 77+50 TO STA 79+55	205	45	9,225	2	683

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NOTE:
AERIAL PHOTOGRAPHY FLOWN IN 2000

NO.	DATE	REVISION	BY

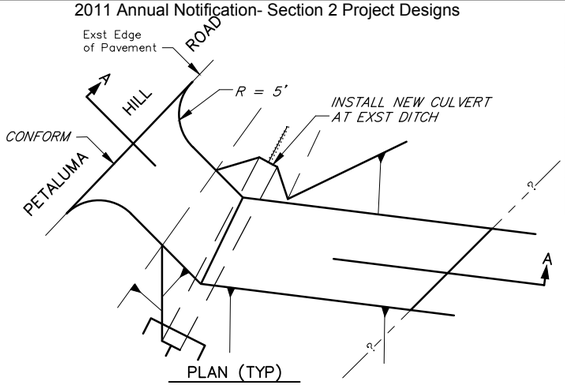
SONOMA COUNTY WATER AGENCY

SCALE : AS SHOWN
DATE : 03/21/11
DRAWN : SMP
REVIEWED :

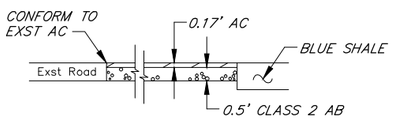
SEDIMENT REMOVAL – ZONE 1A AND ZONE 2A
COPELAND CREE AT SNYDER LANE SEDIMENT REMOVAL
PLAN AND CROSS SECTIONS

FILE NAME: C1-2_COPELAND.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: C-2
SHEET 7 OF 8

\\SD-DATA\Proj\flood control\zone 1a\copeland\sediment_removal\2011\C1-2_COPELAND



PLAN (TYP)

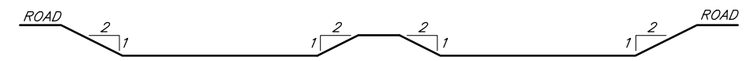


SECTION A–A

STANDARD DRIVEWAY DETAILS

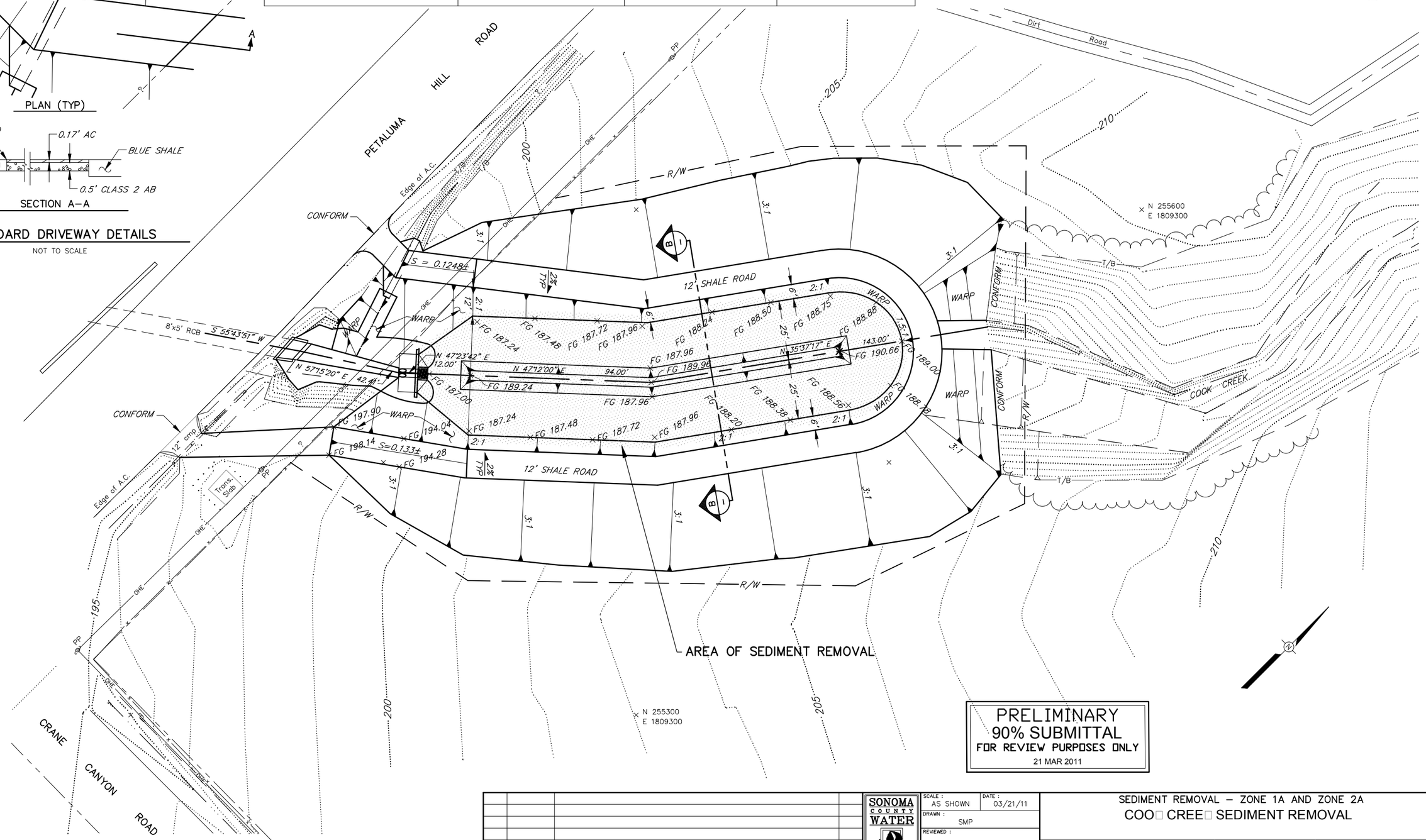
NOT TO SCALE

COOK CREEK						
EXCAVATION						
PROJECT ACTIVITY DESCRIPTION	LOCATION AND STATIONING	LENGTH (LINEAR FT.)	AVERAGE WIDTH (LINEAR FT.)	AREA (SQUARE FT.)	DEPTH (FT.)	C.Y(TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR FROM SERVICE ROAD AND DOZER IN CHANNEL	NA	200	40	8,000	0.5	150
	TOTAL = 200		TOTAL = 8,000		TOTAL = 150	



SECTION B

NOT TO SCALE



PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY

SONOMA COUNTY WATER AGENCY

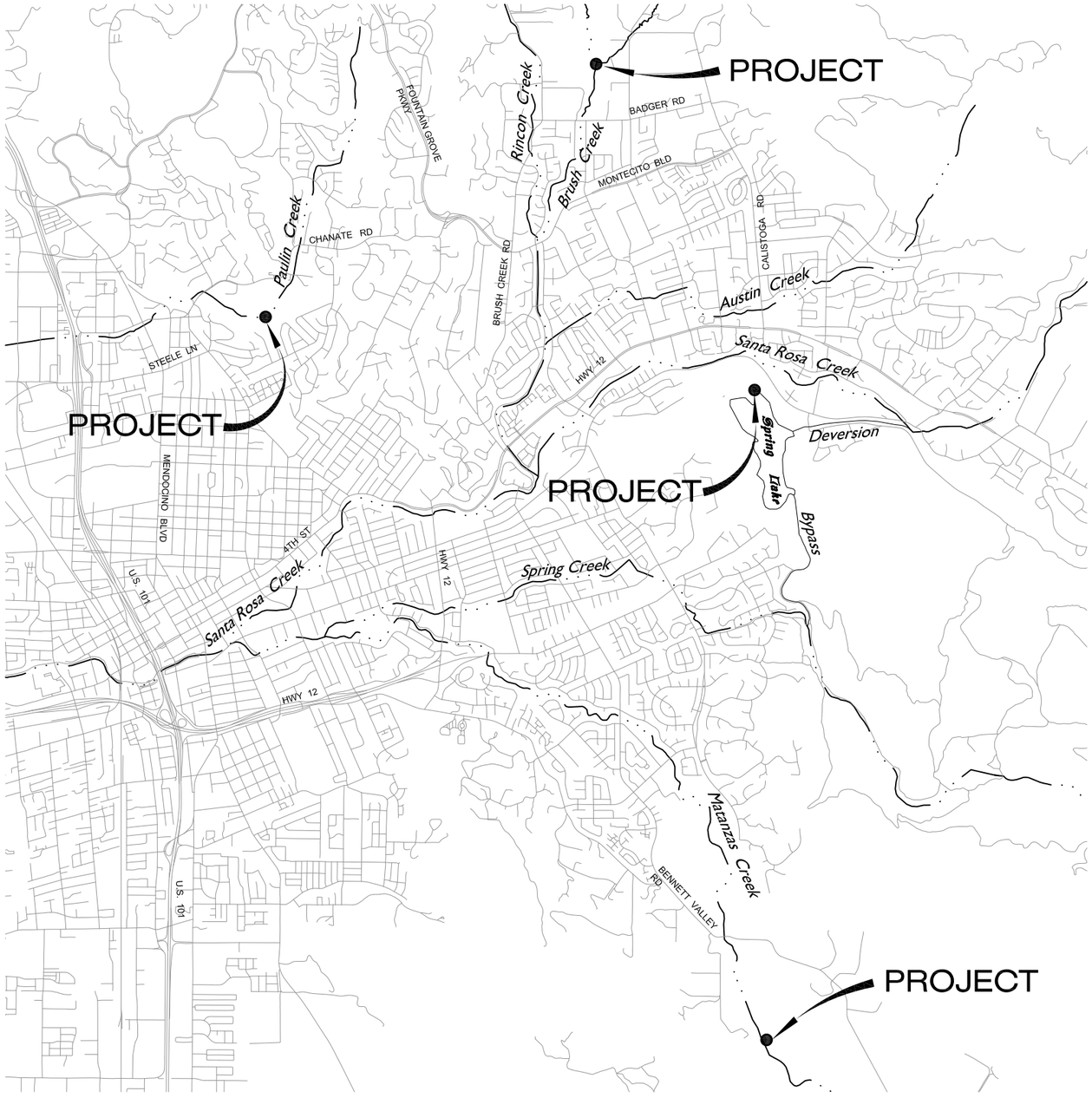
SCALE : AS SHOWN
DATE : 03/21/11
DRAWN : SMP
REVIEWED :

SEDIMENT REMOVAL – ZONE 1A AND ZONE 2A
COO□ CREE□ SEDIMENT REMOVAL

FILE NAME: grading-plan.dwg
CONTRACT NUMBER: --
DRAWING NUMBER: C–1
SHEET 8 OF 8

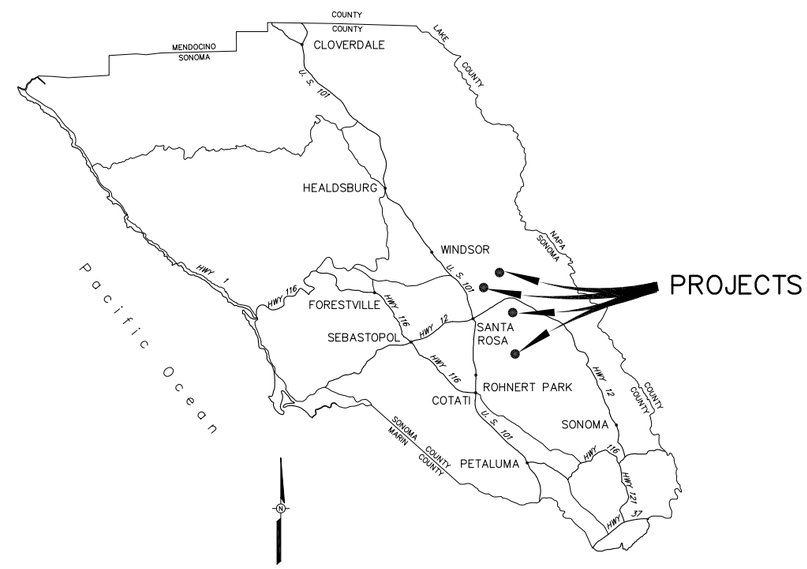
\\SD-DATA\Proj\flood control\zone 1a\cook crk basin\sed-removal\2011\grading-plan

BRUSH CREEK RESERVOIR
PINER CREEK RESERVOIR (Paulin Creek)
MATANZAS CREEK RESERVOIR
and
SANTA ROSA CREEK RESERVOIR
(Spring Lake)
OUTLET STRUCTURE SEDIMENT REMOVAL



VICINITY MAP

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

INDEX TO DRAWINGS:

SHEET NO.	DRAWING NO.	TITLE
1.	G-1	INDEX TO DRAWINGS, LOCATION AND VICINITY MAPS
	BRUSH CREEK RESERVOIR	
2.	C-1	PLAN (AERIAL)
3.	D56-7	(AS-BUILT) PRINCIPAL SPILLWAY PLAN AND SECTIONS
	PINER CREEK RESERVOIR	
4.	C-2	PLAN (AERIAL)
5.	1-5045-102.17	(AS-BUILT) SEWER ENCASEMENT PRICIPAL SPILLWAY PROFILES
	MATANZAS CREEK RESERVOIR	
6.	C-3	PLAN (AERIAL)
7.	D57-4	PRINCIPAL SPILLWAY, GENERAL PLAN
	SANTA ROSA CREEK RESERVOIR	
8.	C-4	PLAN (AERIAL)
9.	1-9130-012.13	(AS-BUILT) PRINCIPAL SPILLWAY DETAILS - SAT 0+00 TO 3+00

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

NO.	DATE	REVISION	BY

PRELIMINARY
SUBJECT TO REVISION

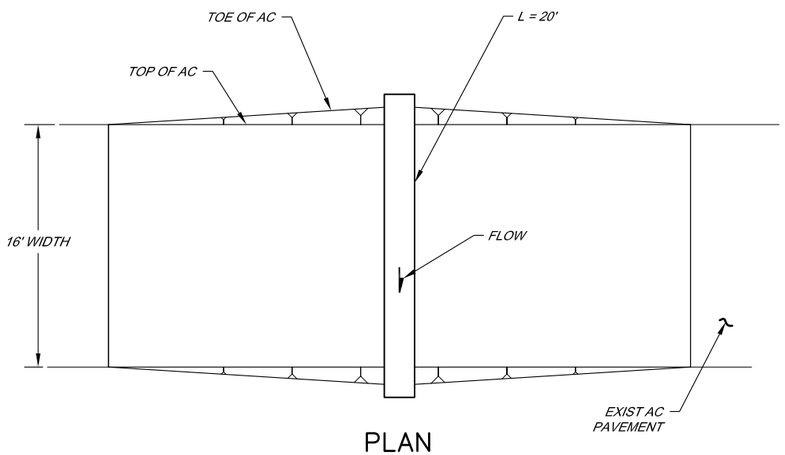
SONOMA COUNTY WATER AGENCY

SCALE : NONE
DATE : 03-21-11
DRAWN : SMP
REVIEWED :

LAGUNA - MARK WEST ZONE 1A
RESERVOIR OUTLET STRUCTURE SEDIMENT REMOVAL
LOCATION AND VICINITY MAPS

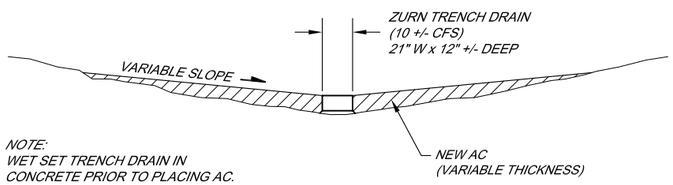
FILE NAME: G-1_RESERVOIRS_2011.dwg
CONTRACT NUMBER:
DRAWING NUMBER: G-1
SHEET 1 OF 9

\\SD-DATA\Proj\flood control\zone 1a\Brush_Crk-reservoir\2011\G-1_RESERVOIRS_2011



PLAN

NTS



NOTE:
WET SET TRENCH DRAIN IN
CONCRETE PRIOR TO PLACING AC.

PROFILE

NTS

DETAIL 1/–

NTS

FILL - FROM 2 CROSSINGS
AREA = 1600SF
FILL = 30CY

PLAN

1"=40'

EXCAVATION				
PROJECT ACTIVITY DESCRIPTION	LOCATION	AREA (SQUARE FT.)	AVERAGE DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED AREA IN RESERVOIR	AROUND OUTLET STRUCTURE	2,250	3	250

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

NO.	DATE	REVISION	BY

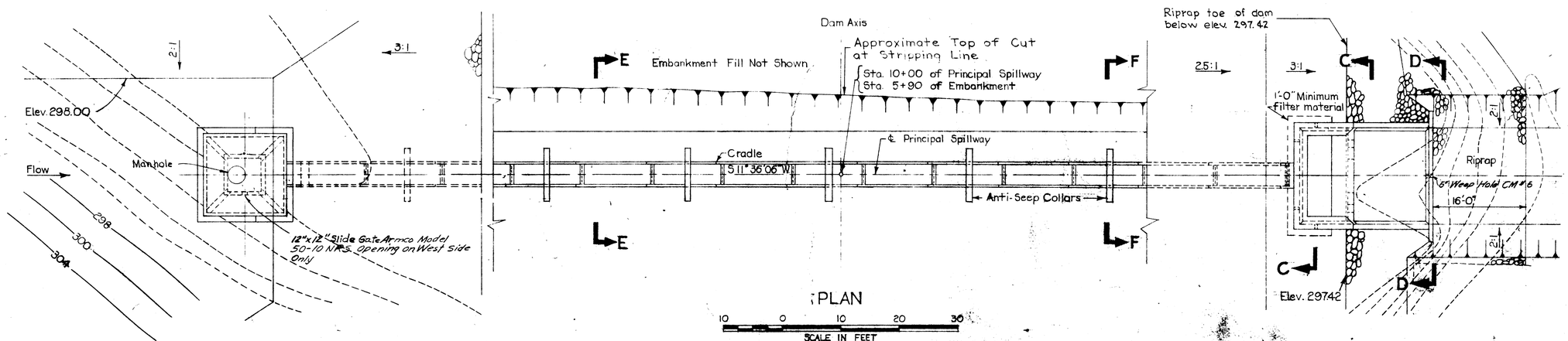
SONOMA COUNTY WATER AGENCY

SCALE : NONE
DATE : 03-21-11
DRAWN : SMP
REVIEWED :

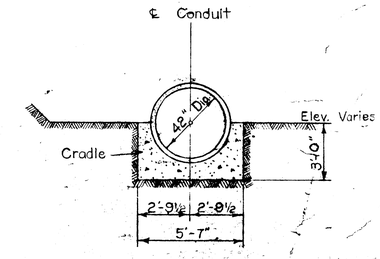
LAGUNA – MARK WEST ZONE 1A
BRUSH CREEK RESERVOIR OUTLET PLAN - OUTLET

FILE NAME: BrushCrk_Res_C-1_2011.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-1
SHEET 2 OF 9

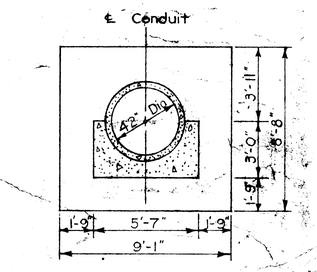
\\SD-DATA\Proj\flood control\zone 1a\Brush_Crk-reservoir\2011\BrushCrk_Res_C-1_2011



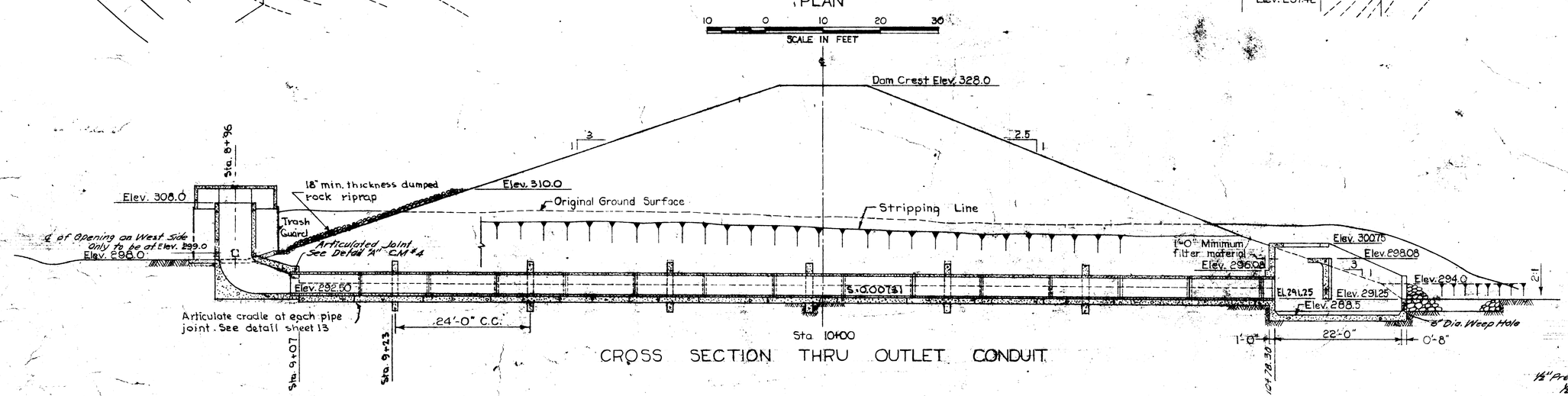
PLAN



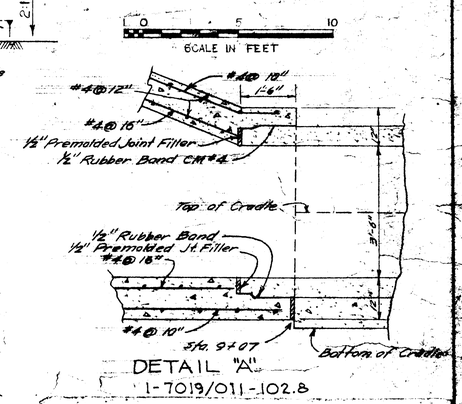
SECTION E-E



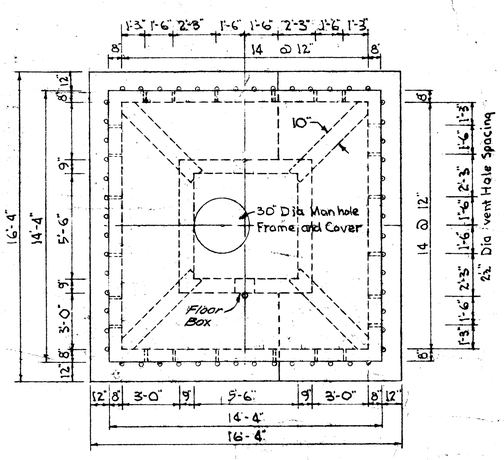
SECTION F-F



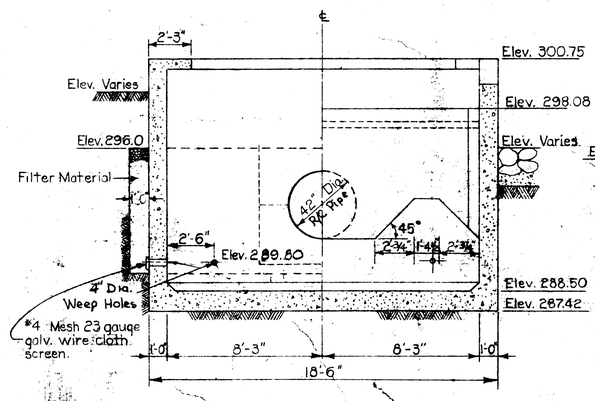
CROSS SECTION THRU OUTLET CONDUIT



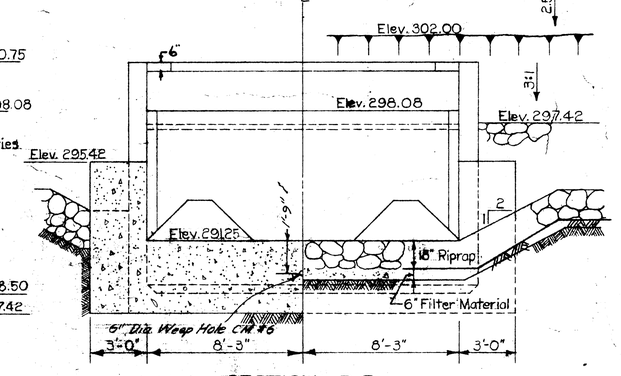
DETAIL "A"
1-7019/011-102.8



PLAN



SECTION C-C



SECTION D-D

0 5 10
SCALE IN FEET

AS BUILT

NO.	DATE	REVISION	BY
1	12-60	Add Trash Rack, Base Slab, Gate Control	R.B.O.

SONOMA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
APPROVED
DATE: 5/1/61 Andrew W. Mull
CHIEF ENGINEER

STATE OF CALIFORNIA
Department Of Water Resources
FOR THE CHIEF ENGINEER
APPLICATION No. 1002-3
APPROVED AS TO SAFETY: W. G. Bunn
Jan. 29, 1963 Supervisor, Safety of Dams
DATE

PRINCIPAL SPILLWAY PLAN AND SECTIONS
BRUSH CREEK - MIDDLE FORK
CENTRAL SONOMA WATERSHED PROJECT
SONOMA COUNTY, CALIF.

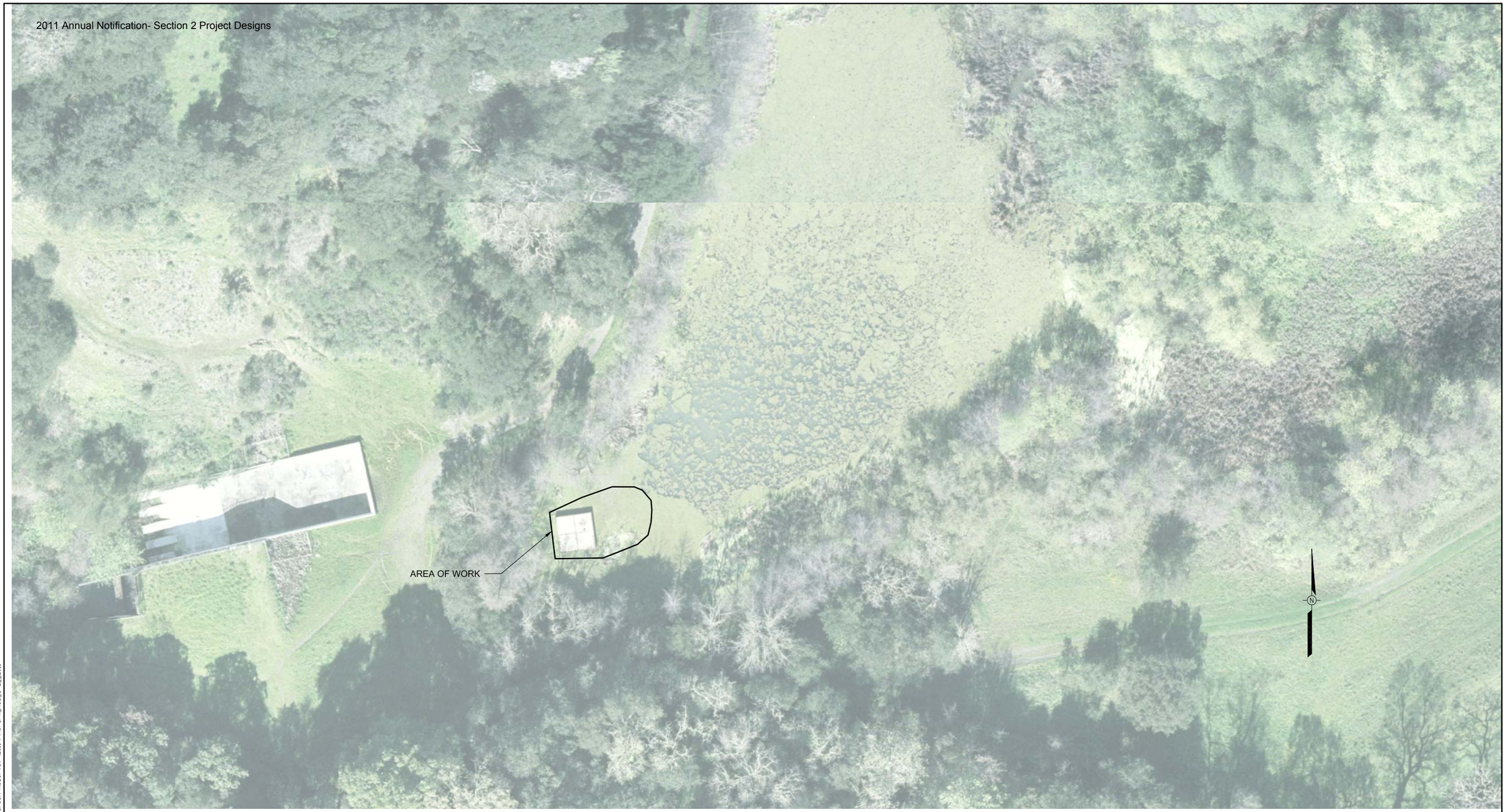
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed R.L.H.	Date 7-60	Approved by	
Drawn R.W.M.	7-60	Title Hydr. E & W.P. Unit	
Traced		Title State Conservation Engineer	
Checked H.L.C., E.B.M.	3-61	Sheet No. 7 of 16	Drawing No. D56-7

PH2-12

7-E-20343

USDA SCS PORTLAND, OREGON M-3551



PLAN

SCALE: 1" = 20'

EXCAVATION				
PROJECT ACTIVITY DESCRIPTION	LOCATION	AREA (SQUARE FT.)	AVERAGE DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED AREA IN RESERVOIR	AROUND OUTLET STRUCTURE	2,250	3	250

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

NO.	DATE	REVISION	BY

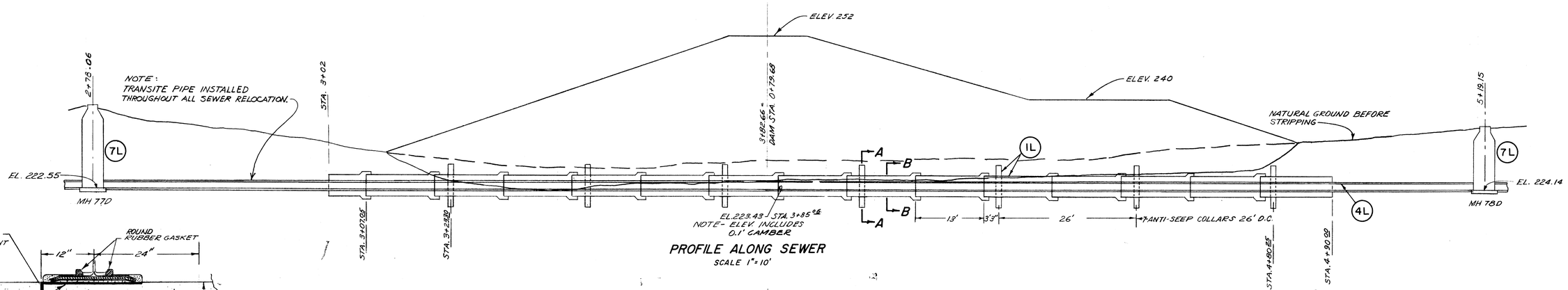
SONOMA COUNTY WATER AGENCY

SCALE : NONE
DATE : 03-21-11
DRAWN : SMP
REVIEWED :

LAGUNA – MARK WEST ZONE 1A
PINER CREEK RESERVOIR PLAN - OUTLET

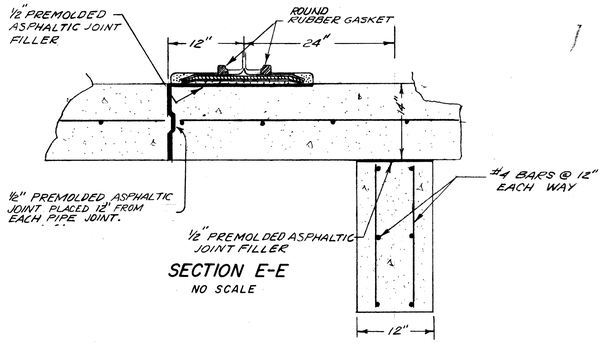
FILE NAME: PinerCrk_Res_C-2__2011.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-2
SHEET 4 OF 9

\\SD-DATA\Proj\flood control\zone 1a\Piner Creek Reservoir\2011\PinerCrk_Res_C-2__2011



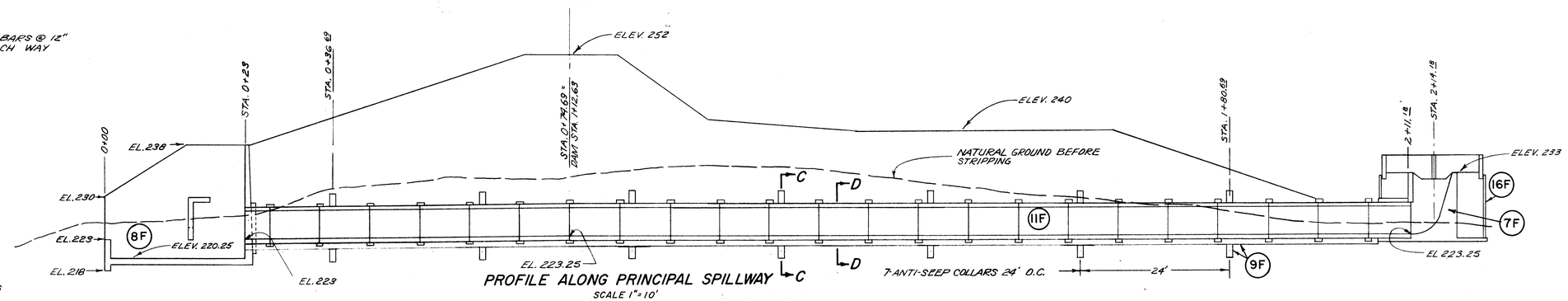
PROFILE ALONG SEWER

SCALE 1"=10'



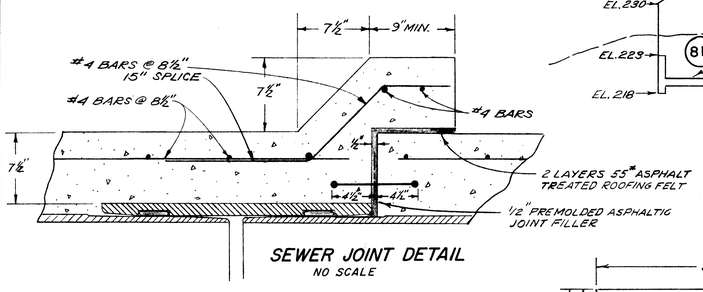
SECTION E-E

NO SCALE



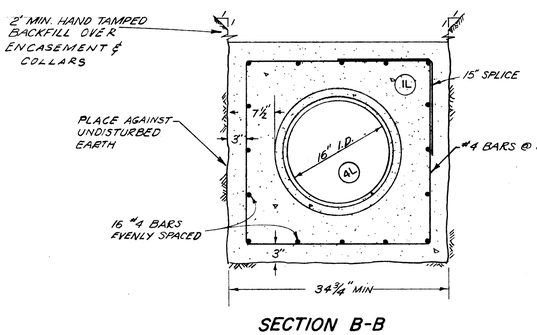
PROFILE ALONG PRINCIPAL SPILLWAY

SCALE 1"=10'



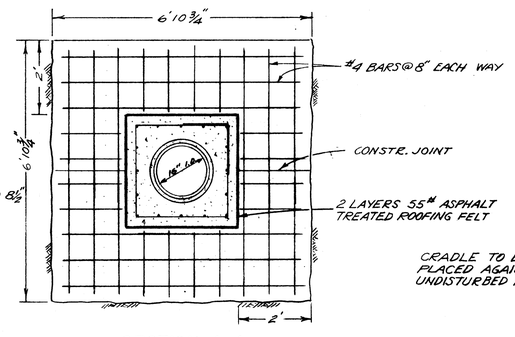
SEWER JOINT DETAIL

NO SCALE



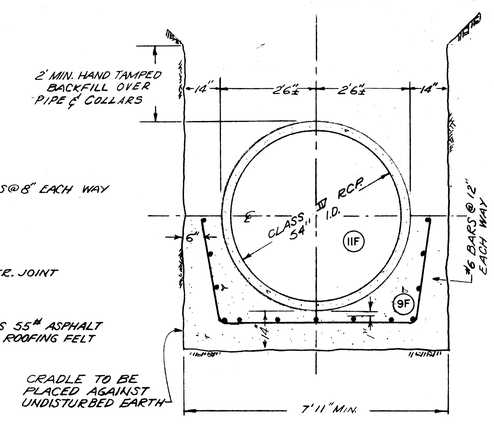
SECTION B-B

SCALE 1"=1'



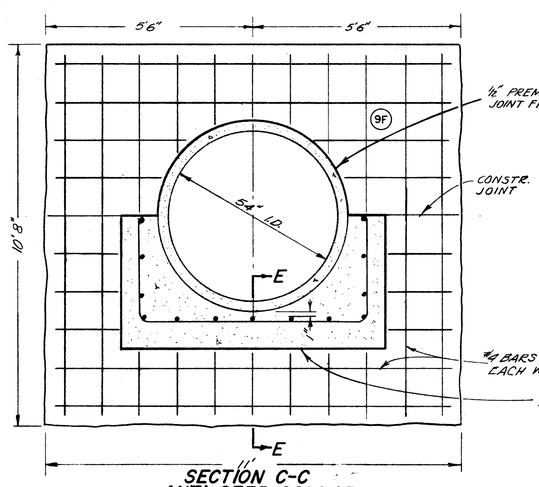
SECTION A-A
ANTI-SEEP COLLAR

SCALE 1/2"=1'



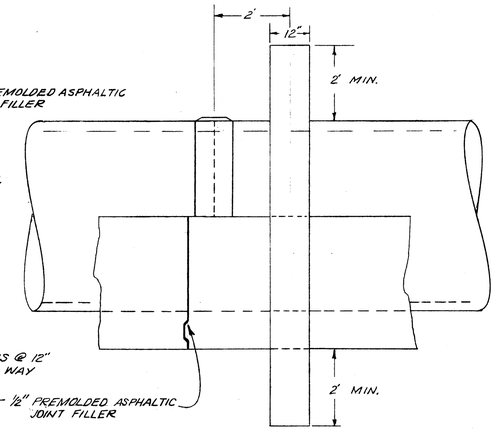
SECTION D-D

SCALE 1/2"=1'



SECTION C-C
ANTI-SEEP COLLAR

SCALE 1/2"=1'



MASTIC JOINT IN CONCRETE CRADLE AT PIPE JOINT

SCALE 1/2"=1'

NOTE:
FOR FIBER GLASS COUPLING BAND ALTERNATE, CRADLE & PIPE SHALL BE SEPARATED WITH ASPHALTIC PAINT BETWEEN THE PIPE JOINT & CRADLE JOINT.

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

APPLICATION NO. 1002-2

APPROVED AS TO SAFETY

DATE

AS BUILT

PINER CREEK RESERVOIR
SEWER ENCASEMENT & PRINCIPAL SPILLWAY PROFILES

SCALE: AS SHOWN	APPROVED Gordon W. Wilde CHIEF ENGINEER	DRAWN SKMc
DATE: 1/23/1961		CHECKED

SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED	SUBMITTED	DRAWING NUMBER
		1-5045-102.17

Pencilled sheet

PLAN

SCALE: 1" = 20'

EXCAVATION				
PROJECT ACTIVITY DESCRIPTION	LOCATION	AREA (SQUARE FT.)	AVERAGE DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED AREA IN RESERVOIR	AROUND OUTLET STRUCTURE	2,250	3	250

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

NO.	DATE	REVISION	BY

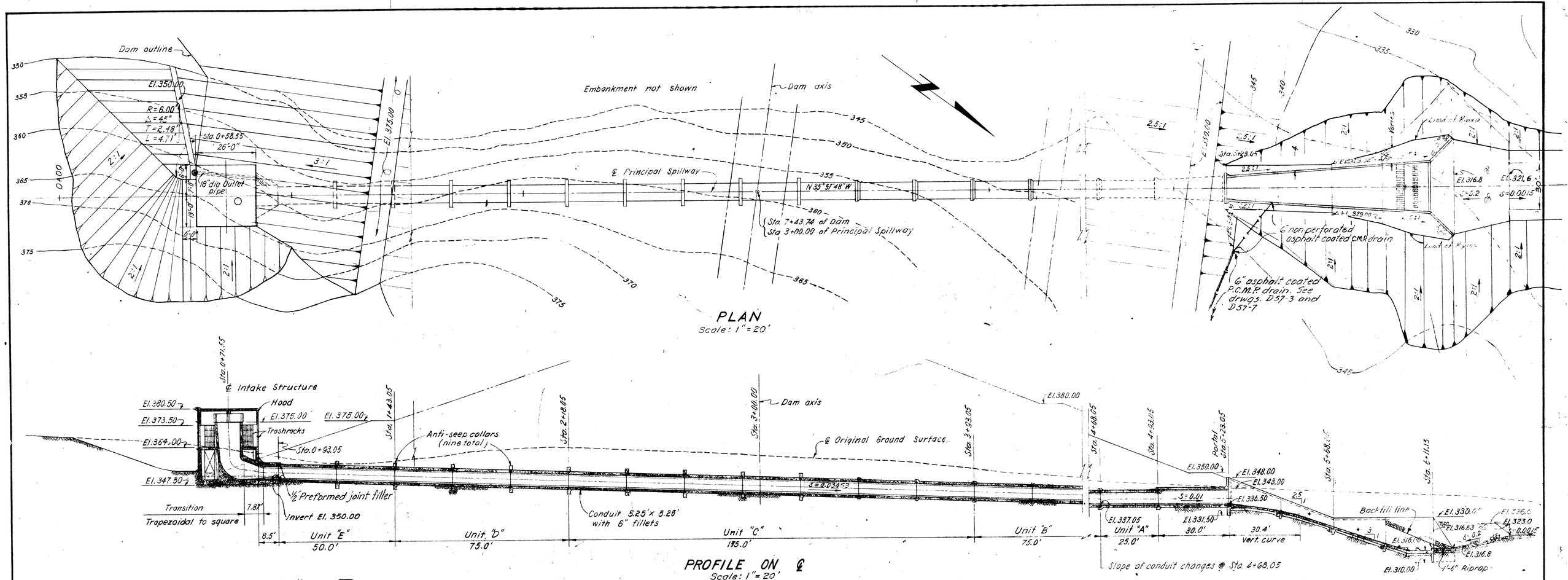
SONOMA COUNTY WATER AGENCY

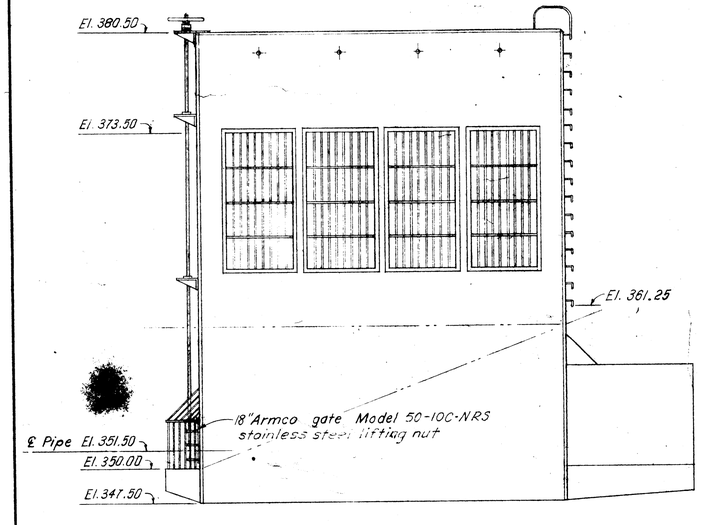
SCALE : NONE
DATE : 03-21-11
DRAWN : SMP
REVIEWED :

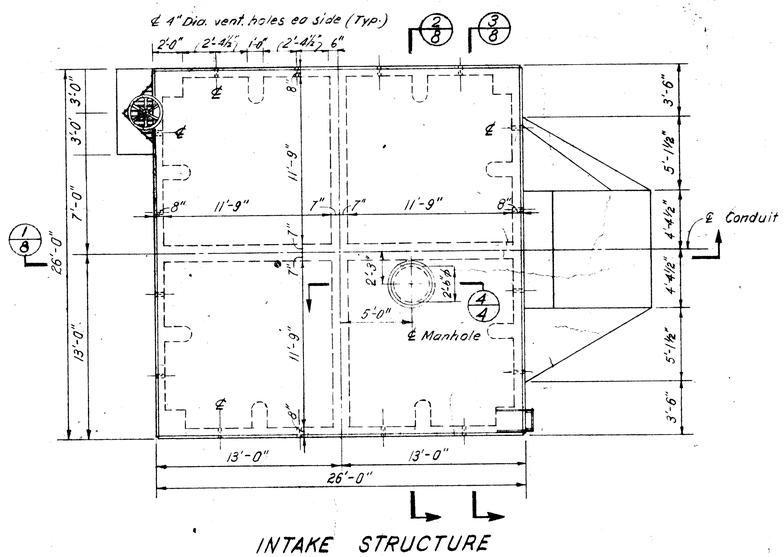
LAGUNA – MARK WEST ZONE 1A
MATANZAS CREEK RESERVOIR PLAN - OUTLET

FILE NAME: MatanzasCrk_Res_C-3_2011.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-3
SHEET 6 OF 9

\\SD-DATA\Proj\flood control\zone 1a\matanzas_crk_reservoir\outlet\2011\MatanzasCrk_Res_C-3_2011



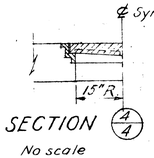




GRAPHIC SCALES

0 20 40 60 Feet
Scale: 1"=20'

0 6 12 18 Feet
Scale: 3/16"=1'-0"



SECTION
No scale

Note: C.I. Frame and locking cover to weigh not less than 500 #

NOTES:
1. For Intake Structure Details see Dwgs D57-5 and D57-6.
2. For Conduit Details see Dwg D57-6.
3. For Outlet Chute and Stilling Basin Details see Dwg D57-7.
4. For Dam Embankment Details see Dwg. D57-3

REGISTERED PROFESSIONAL ENGINEER STANLEY F. GUSEMAN #10352 CIVIL STATE OF CALIFORNIA

AS BUILT 1-6054-102.12AB

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF SAFETY OF DAMS
APPLICATION No. 1002-4
APPROVED AS TO SAFETY
FOR THE CHIEF ENGINEER
AUG 5 1966
Robert B. Hansen
DIVISION ENGINEER

WOODWARD, CLYDE, SHERARD & ASSOCIATES CONSULTING CIVIL ENGINEERS — OAKLAND, CALIF.	
DESIGNED: V.I.T. CHECKED: V.S.D. DRAWN: G.R.I.	APPROVED BY:
SONOMA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT CENTRAL SONOMA WATERSHED PROTECTION PROJECT	
MATANZAS CREEK PRINCIPAL SPILLWAY GENERAL PLAN	
APPROVED — SOIL CONSERVATION SERVICE STATE CONSERVATION ENGINEER	APPROVED — SONOMA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT CHIEF ENGINEER
DATE MARCH, 1962 / SCALE AS NOTED	DRWG. NO. D57-4 / SHEET OF

PLAN

SCALE: 1" = 40'

EXCAVATION				
PROJECT ACTIVITY DESCRIPTION	LOCATION	AREA (SQUARE FT.)	AVERAGE DEPTH (FT.)	C.Y. (TO REMOVE)
ACCUMULATED SEDIMENT REMOVAL USING EXCAVATOR OR FRONT END LOADER OPERATING IN THE DEWATERED AREA IN RESERVOIR	AROUND OUTLET STRUCTURE	2,700	1	100

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

PRELIMINARY
90% SUBMITTAL
FOR REVIEW PURPOSES ONLY
21 MAR 2011

NO.	DATE	REVISION	BY

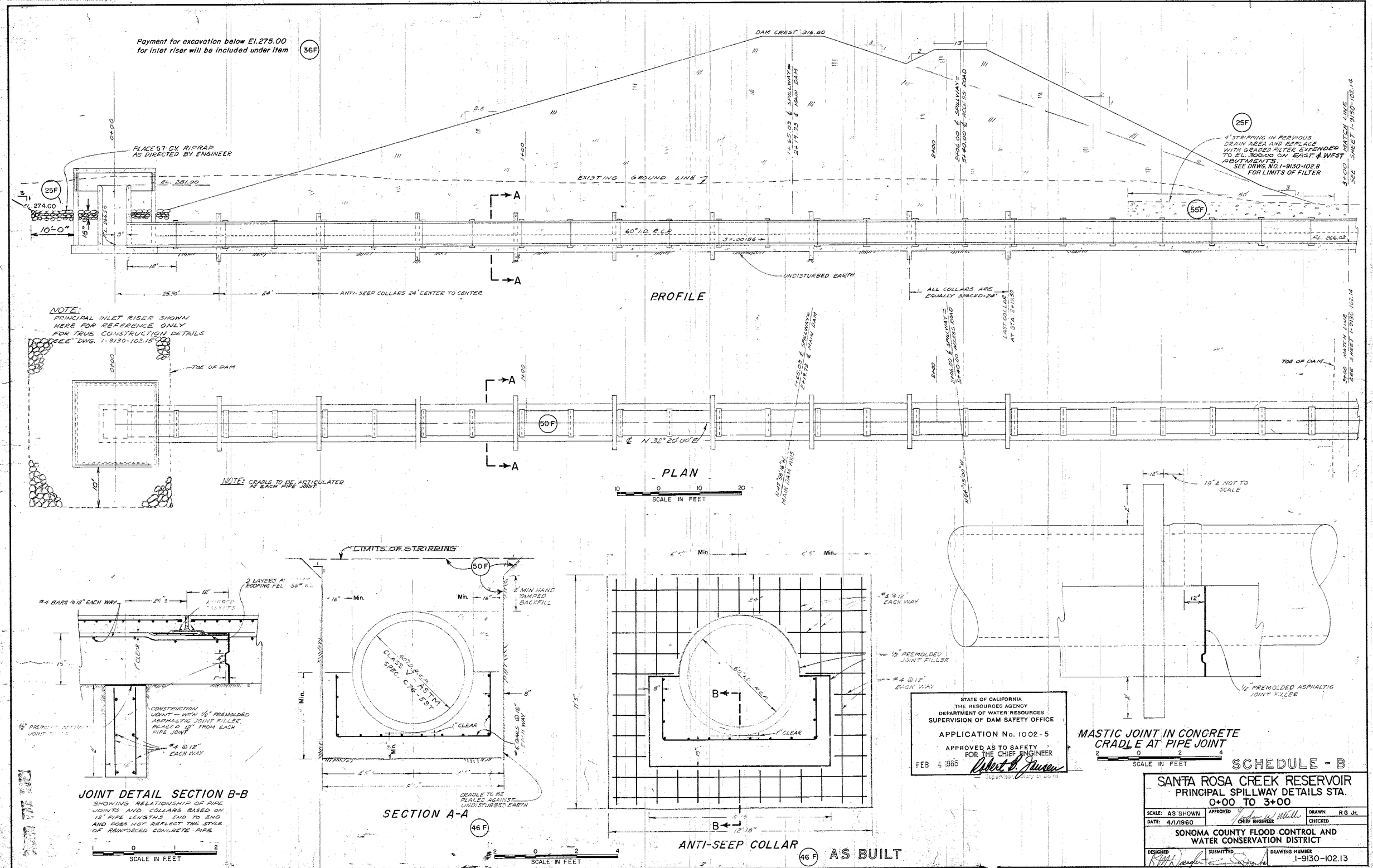
SONOMA COUNTY WATER AGENCY

SCALE : NONE
DATE : 03-21-11
DRAWN : SMP
REVIEWED :

LAGUNA – MARK WEST ZONE 1A
SANTA ROSA RESERVOIR (SPRING LAKE)

FILE NAME: SpringLake_Out_C-4_2011.dwg
CONTRACT NUMBER:
DRAWING NUMBER: C-4
SHEET 8 OF 9

\\SD-DATA\Proj\flood control\zone 1a\SPRNGS-LAKE\OUTLET\2011\SpringLake_Out_C-4_2011


Payment for excavation below El. 275.00 for inlet riser will be included under item 36F
DAM CREST 316.50
PLACE 57 CY. RIPRAP AS DIRECTED BY ENGINEER
EL. 281.00
EXISTING GROUND LINE
EL. 274.00
10'-0"
18"
EL. 266.50
3'
60" I.D. R.C.P.
S=.00156
EL. 266.03
UNDISTURBED EARTH
25.50'
24'
ANTI-SEEP COLLARS 24' CENTER TO CENTER
ALL COLLARS ARE EQUALLY SPACED-24'
LAST COLLAR AT STA. 2+17.50
4' STRIPPING IN PREVIOUS DRAIN AREA AND REPLACE WITH GRADED FILTER EXTENDED TO EL. 300.00 ON EAST & WEST ABUTMENTS. SEE DRWG. NO. 1-9130-102.8 FOR LIMITS OF FILTER
3+00 MATCH LINE SEE SHEET 1-9130-102.14
PROFILE
NOTE: PRINCIPAL INLET RISER SHOWN HERE FOR REFERENCE ONLY FOR TRUE CONSTRUCTION DETAILS SEE DWG. 1-9130-102.15
TOE OF DAM
℄ N 32° 20' 00" E
NOTE: CRADLE TO BE ARTICULATED AT EACH PIPE JOINT
PLAN
SCALE IN FEET
LIMITS OF STRIPPING
2' MIN HAND TAMPED BACKFILL
#4 BARS @ 12" EACH WAY
CONSTRUCTION JOINT — WITH 1/2" PREMOLDED ASPHALTIC JOINT FILLER, PLACED 12" FROM EACH PIPE JOINT
#4 @ 12" EACH WAY
JOINT DETAIL SECTION B-B
SHOWING RELATIONSHIP OF PIPE JOINTS AND COLLARS BASED ON 12' PIPE LENGTHS END TO END AND DOES NOT REFLECT THE STYLE OF REINFORCED CONCRETE PIPE
SCALE IN FEET
60" I.D. R.C.P. CLASS V - ASTM SPEC. C76-55T
#6 BARS @ 12" EACH WAY
CRADLE TO BE PLACED AGAINST UNDISTURBED EARTH
SECTION A-A
#4 @ 12" EACH WAY
1/2" PREMOLDED JOINT FILLER
ANTI-SEEP COLLAR
AS BUILT
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SUPERVISION OF DAM SAFETY OFFICE
APPLICATION No. 1002-5
APPROVED AS TO SAFETY FOR THE CHIEF ENGINEER
FEB 4 1965
Supervisor Safety of Dams
18" ± NOT TO SCALE
1/2" PREMOLDED ASPHALTIC JOINT FILLER
MASTIC JOINT IN CONCRETE CRADLE AT PIPE JOINT
SCALE IN FEET
SCHEDULE - B
SANTA ROSA CREEK RESERVOIR
PRINCIPAL SPILLWAY DETAILS STA. 0+00 TO 3+00
SCALE: AS SHOWN
DATE: 4/1/1960
APPROVED
CHIEF ENGINEER
DRAWN R.G. Jr.
CHECKED
SONOMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
DESIGNED
SUBMITTED
DRAWING NUMBER 1-9130-102.13
7-Sd-16683
M-3656

Section 3
Summary of Maintenance Project Sizes, Extents, and Potential Effects

The following tables describe the areal and length extents of the 2011 maintenance projects and their potential effects to Waters of the State/U.S. and listed species.

3A. Sediment Removal Projects

Project Site	Length (linear feet)	Volume Removed (cu. yds.)	Acres Disturbed	
			Waters of the U.S. (below OHWM)	Waters of the State (area below TOB)
Localized Scale				
Bloomfield Creek	197	242	0.10	—
Laguna de Santa Rosa 5 and 6	391	183	0.11	—
Windsor 1	226	129	0.11	—
Reach Scale				
Austin Creek 3	1,075	732	0.27	0.01
Coleman 2	903	833	0.30	0.10
Corona 1	2,260	421	0.52	—
Fryer Creek 2	375	140	0.20	—
Fryer Creek 3	95	49	0.02	0.002
Gossage 1	2,600	3,040	1.30	—
Laguna 1	2,400	12,418	2.42	—
Todd Channel 3	1,123	1,916	0.74	—
Todd Channel 4	790	525	0.23	0.03
Santa Rosa Creek 2	3,494	3,835	3.00	—
Washington Creek 3	260	296	0.09	0.09
Sediment Basin/Instream Basin Clearing				
Adobe 2	80	500	0.08	—
Cook Creek 2	200	150	0.18	—
Copeland at Country Club Dr.	200	333	0.21	—
Copeland at Snyder Ln.	205	683	0.21	—
Five Creek 1	120	200	0.11	—
Wilfred 1	200	110	0.05	—
Project Totals	**16,994**	**26,735**	**10.25**	**0.23**

3B. Bank Stabilization Projects

Project Site	Length (linear feet)	Area Disturbed (sq ft): Waters of the U.S. (below OHWM)	Area Disturbed (sq ft): Waters of the State (below Top of Bank)	Volume of Fill (cu.yds, net)	Treatment Approach (SMP Manual Figures 5-5, 5-6, or 5-7)
Fryer 4	20	0	120	10	5-6
Todd 4	73	438	0	32	5-6
Totals	**93**	**438**	**120**	**42**	

3C. Listed and Special-Status Species – Potential Area of Effect

California Tiger Salamander

As described above in Section 1C and Table 1-3, there are three species listed under the Federal Endangered Species Act that could be potentially impacted by the 2011 maintenance projects. One of these species, California tiger salamander, is also listed under the California Endangered Species Act. The SMP Manual and its associated Biological Opinions from the USFWS and NMFS describes the necessary avoidance and minimization measures required for these species to provide incidental take authorization.

SCWA SMP managers, SCWA biologists, consultants, and USFWS biologists reviewed the 2011 maintenance project locations and proposed activities. Based on this analysis, project managers and reviewers concluded that impacts to California tiger salamander (CTS) are the only potential impacts to listed species that require compensatory mitigation.

Table 3-1 below identifies 2011 SMP maintenance reaches within 1.3 miles of known CTS occurrences. Maintenance project areas (above the ordinary high water mark – the zone thought to potentially support rodent burrows and CTS) are given for the project areas within the 1.3 mile buffer zone of known occurrences. It should be noted that these data reflect the most recent occurrence data and include recent observations at the Horn Avenue Mitigation Bank. These data are not in the CNDDB yet, but have been incorporated into the SMP and the 2011 notification package. Included at the end of Section 3 are resource maps indicating the location of 2011 SMP projects in relation to California Natural Diversity Database data as well as maps used to calculate CTS distance rankings to determine this season's mitigation needs.

SMP channels do not provide suitable breeding habitat for California tiger salamanders but the upper banks of channels may provide upland habitat. Gopher burrows that may support CTS will be flagged by a qualified biologist and avoided during project construction. SMP 2011 projects requiring CTS upland surveys are Santa Rosa 2, Todd Channel 3 and 4, and Gossage. Surveys will be coordinated with Maintenance Coordinator and be completed immediately prior to construction.

Table 3-1. 2011 Projects Requiring Compensatory Mitigation for CTS

Project Site	Area Disturbed (above OHWM)	Compensatory Mitigation Required (as per FWS BO)	
		Ratio	Total required (sq.ft.)
Localized Scale Sediment			
Laguna 5	0	1:1	0
Reach Scale Sediment			
Coleman 2	4,472	0.2:1	894
Gossage 1	0	1:1	0
Laguna 1	0	1:1	0
Santa Rosa 2	0	0.2:1	0
Todd 3	0	0.2:1	0
Todd 4	1,150	0.2:1	230
Bank Stabilization			
Todd 4 (+localized)	0	0.2:1	0
Sediment Basin			
Copeland 3	0	0.2:1	0
Copeland 4	0	0.2:1	0
Copeland 5	0	0.2:1	0
Wilfred 1	0	0.2:1	0
Project Totals	**5622 sq. ft. (0.129 acres)**		**1124 sq. ft. (0.026 acres)**

As per the guidance of the SMP's Programmatic USFWS Biological Opinion and the pending Consistency Determination from the CDFG, SCWA agrees to compensate for effects to California tiger salamander through purchase of credits from a USFWS and CDFG approved conservation bank equivalent to 0.07 acre for the California tiger salamander. This area is being used to mitigate for impacts resulting from 2010 Projects as well as 2011 projects (e.g. 2010 mitigation of 0.034 acres x 2 = 0.07 acres). For the 2011 season, CTS impact mitigation requirements are calculated to be 0.026 acres. As 0.034 acres were utilized for the 2010 field season, 0.034 credits are remaining for use in 2011. The 2011 field season will utilize 0.026 acres of the 0.034 acres of credit remaining leaving 0.008 acres. To provide coverage for 2012 and 2013 field season, the Agency will pursue purchasing an additional 0.07 acres of credit from USFWS and CDFG approved local mitigation banks.

SCWA shall provide the USFWS and CDFG with a copy of the credit purchase agreement for the required credits of USFWS and CDFG-approved documentation that shows sufficient funding has been secured for the actual costs of the credits. This mitigation for CTS habitat disturbance is provided in addition to already required SMP on-site and off-site mitigation activities which will be implemented in 2011 (see Section 4 and Appendix C).

Moreover, SCWA will purchase credits prior to project impacts. SCWA will be responsible for all actual costs for credit purchase. If the credits are not purchased prior to project impacts, funding assurances for credit purchase will be secured by an Irrevocable Letter of Credit (LOC) or other mechanism approved by the USFWS and CDFG and with language reviewed and approved by the USFWS and CDFG and the issued LOC shall be provided prior to project impacts. The funding assurance provided for credit purchase shall be based on the cost of credits for 0.07 acre for the California tiger salamander.

As part of the Sonoma County Water Agency's Stream Maintenance Program (SMP) surveys will be conducted at several channelized streams for the threatened California red-legged frog. SMP projects for 2011 are described in the Annual Notification for 2011 Maintenance Projects. Below is a summary of the status of these surveys.

California Red-Legged Frog

California red-legged frog protocol level surveys will be conducted for SMP 2011 ground-disturbing projects within the area considered potential habitat. Protocol level surveys require eight visits and two of these visits must occur after July 1. The below table lists the new 2011 SMP projects, the status of surveys, and field observations. Frog surveys began on February 8, 2011 and should be completed in early July.

California red-legged frog protocol level surveys for SMP 2011 projects Location	**Completed Surveys as of March 9, 2011**	**Observed Species to Date**
Austin Creek 3	4	Pacific chorus frog
Bloomfield Creek (near Stormy's)	4	
Fryer Creek 2,3	4	Pacific chorus frog, bullfrog, pond slider
Windsor Creek Culvert	4	Western pond turtle, Pacific chorus frog

To address stream maintenance effects on California Red-Legged Frog in locations where the species has the potential to occur (See SMP Manual Table 7-3), SCWA will (according to BMPs BR-10 and BR-11 California Red-legged Frog Avoidance and Impact Minimization Measures for Ground-Disturbing and Vegetation Management Activities and the USFWS BO) undertake the following measures:

1. For ground-disturbing maintenance activities occurring in areas where California red-legged frog has been identified as potentially occurring (see SMP Manual Table 7-3), a qualified biologist will conduct USFWS-approved protocol level surveys to determine the potential presence of red-legged frogs. For ground-disturbing maintenance activities that are in areas where California red-legged frogs are identified as potentially occurring and no protocol level surveys are conducted, red-legged frogs will be presumed present.

2. If suitable breeding is habitat is encountered, the USFWS will be contacted and any site-specific recommendations will be implemented.

3. If red-legged frogs are present or assumed present, a qualified biological monitor, or a biologist with an Incidental Take Permit pursuant to Section 10(A)(1)(b) for the Act, will inspect the area daily before the start of work and will be present during maintenance activities in sensitive habitats. If appropriate, SCWA will install exclusionary fencing.

4. In the event that a red-legged frog is encountered within the maintenance area, the USFWS will be contacted within 48 hours of any red-legged frog observations, and a qualified biologist will move the frog to a safe location outside of the project area. Actions taken to move red-legged frog will be consistent with applicable Service and CDFG regulations and permits. The biological monitor will have the authority to stop work if a red-legged frog is encountered until such a time as the frog may be moved to an area outside of the project area fencing.

5. If dewatering of a creek is required, dipnet and seine surveys for red-legged frog tadpoles will be completed prior to initiation of dewatering. Captured tadpoles will be moved to a safe location elsewhere in the creek.

For SMP vegetation maintenance activities occurring in areas where red-legged frog has been identified as potentially occurring, a qualified biologist will conduct pre-maintenance surveys of aquatic habitats and identify potential red-legged frog breeding and foraging areas. These areas will be flagged and avoided by maintenance crews. Surveys will be coordinated with staff and be completed prior to maintenance activities. SMP vegetation maintenance projects are listed in 2011 Annual Notification.

As of publication of this notification, SCWA biologist's are in the process of performing protocol level surveys for all 2011 ground-disturbing project sites within the area considered potential habitat for the California red-legged frog (SMP Table 7-3). Details of these surveys will be sent to the USFWS prior to commencing project activities. Table 3-2, below, indicates all of the 2010 and 2011 project sites that entail ground-disturbing within potential habitat for this species. The table also notes whether protocol surveys are underway or complete. As protocol level surveys are completed for these stream segments and maintenance activities are monitored, the SMP database will continue to track current spatial presence or absence of the species and these data will be shared with the USFWS.

Table 3-2. 2011 Projects on Reaches requiring CRLF protocol level and habitat level surveys

Location	Protocol Level Survey Conducted
Localized Scale Sediment	
Bloomfield Creek 1	Y (started in February 2011)
Windsor Creek 1	Y (started in February 2011)
Reach Scale Sediment	
Austin 3	Y (started in February 2011)
Corona 1	Y (Conducted in 2010)
Fryer Creek 2 & 3	Y (started February 2011)
Washington 3 (2009 permitted project)	Y (Conducted in 2010)
Sediment Basin Clearing	
Adobe Creek 2	Y (Conducted in 2010)
Cook Creek 2	Y (Conducted in 2010)
Bank Repair	

Fryer 4	Y (started in March 2011)
Reservoir Inlet Clearing (2009 permitted projects)	
Brush Creek	Y (Conducted in 2009)
Brush Creek Culvert Installation	Y (Conducted in 2010)
Matanzas	Y (Conducted 2010)
Piner Creek	Y (Conducted in 2009)
Spring Lake	Y (Conducted 2010)

In addition to the conservation measures articulated for ground-disturbing activities, SCWA will also conduct the following CRLF measures to avoid potential impacts to frogs during vegetation maintenance activities occurring within potential habitat for the species:

1. For vegetation maintenance activities occurring in areas where red-legged frog has been identified as potentially occurring (see SMP Manual Table 7-3), a qualified biologist will conduct pre-maintenance surveys of aquatic habitats and identify potential red-legged frog breeding and foraging areas. These areas will be flagged and avoided by maintenance crews.
2. In areas where red-legged frog could potentially occur, field crews conducting hand trimming of vegetation will access channel banks by foot only and will avoid entering open water. Vehicles will be restricted to existing access roads.
3. In work sites where potential red-legged frog breeding and foraging areas were identified during the pre-maintenance survey, a qualified biological monitor or a biologist with an Incidental Take Permit, pursuant to Section 10(a)(1)(b) of the Act will be on-site during project activity in sensitive habitats. The biological monitor will have the authority to stop work if a red-legged frog (or any of its life stages) is encountered until such a time as the frog may be moved to an area away from the project site.
4. The USFWS will be contacted within 48 hours of any red-legged frog observations.

Site Surveys for Presence of Special-Status Plants

A qualified botanist is required to conduct appropriately-timed botanical surveys for special-status species for projects located in areas where state and federally-listed plant species have been identified as potentially occurring (see SMP Manual Table 7-3). For the 2011 project sites, only five reaches have the potential to provide habitat for state and federally-listed plant species: Laguna de Santa Rosa Reach 1, 5 and 6, Santa Rosa Creek Reach 2, and Windsor Creek Reach 1 (SMP Manual Table 7-3 [version dated August 2009], and Table 1-3 above).

In accordance with BMP BR-7: *Special Status Plants* of the SMP Manual, SCWA will conduct a survey for special-status plants during their blooming season. The recommended blooming season for state and federally-listed plants in the SMP program area is May-June. The

Laguna de Santa Rosa Creek Reach 1, 5 and 6, Santa Rosa Creek Reach 2, and Windsor Creek Reach 1 project sites will be evaluated for potential federally-listed plants during the recommended blooming season. The survey will document the presence of special-status plants and the results (if positive) will be relayed to the pertinent regulatory agencies through an addendum notification to this Annual Notification.

As specified in BMP BR-7 of the SMP Manual, state and federally listed plant populations identified during the field surveys with potential to be impacted will be enumerated, photographed and conspicuously flagged to maximize avoidance, and determine the total number of individuals affected. If feasible, the projects will be redesigned or modified to avoid direct and indirect impacts on special-status plant species. If impacts to state or federally listed plants are unavoidable, SCWA will coordinate with the appropriate resource agencies and local experts to determine whether transplantation of special-status plant species is feasible. If the agencies concur that it is a feasible mitigation measure a transplantation plan will be developed and implemented in coordination with the appropriate agencies.

The following six listed plants are known to occur within the SMP Program: Sonoma alopecurus (*Alopecurus aequalis sonomensis*) (alopecurus), Sonoma sunshine (*Blennosperma bakeri*), Sonoma white sedge (*Carex albida*) (white sedge), Burke's goldfields (*Lasthenia burkei*) (Burke's goldfields), Sebastopol meadowfoam (*Limnanthes vinculans*) (meadowfoam), and many-flowered navarretia (*Navarretia leucocephalis plieantha*) (navarretia). As per the SMP USFWS BO, white sedge, navarretia, or alopecurus are not likely to be adversely affected by the SMP Program. If white sedge, navarretia, or alopecurus are discovered during floristic surveys, no further SMP activities will occur within the reach, the Service and CDFG will be notified of their discovery within 48 hours, and SCWA will not continue any maintenance activities within the reach without Service and CDFG approval.

The SMP BO finds that activities could result in adverse effects to Sonoma sunshine, Burke's goldfields, and Sebastopol meadowfoam. These adverse effects will be minimized by conducting appropriately timed pre-maintenance surveys for rare plants. Table 3-3 lists the 2011 project reaches from SMP Table 7-3 that could provide potential habitat for listed plants. As per the terms and conditions of the USFWS BO and SMP Manual BMPs, SCWA botanists will conduct appropriately timed floristic surveys at both these project locations in the spring of 2011, prior to project implementation. If any special status plants are observed during surveys, the project will either be redesigned to avoid effects or these plants will be flagged and/or fenced off to avoid them to the maximum extent possible. If not special status plants are observed, the project will be implemented as designed and no further measures will be put in place for protection of special status plants and results of the surveys will be appended to the SMP Annual Report.

Stream reaches requiring floral surveys prior to the start of the 2011 field season include, Laguna 1, Laguna 5 and 6, Santa Rosa 2 and Windsor 1. Initial surveys for special-status species on these creeks were conducted April 4 and 20, 2011. These vernal pool species typically bloom between April and June. Reference sites were evaluated to determine appropriate timing for the surveys. Several listed species were observed (Sonoma sunshine, Sebastopol meadowfoam, and Burke's goldfields blooming on April 20th on the Santa Rosa Plain at one or more of the following reference sites : Todd Road Preserve, Alton Lane, fields adjacent to lands that included the Santa Rosa Naval Air Station, and some small

mitigation ponds associated with The Water Agency's airport Treatment Plant in Santa Rosa. Follow-up surveys are scheduled for Mid May and early June. The bullets below summarize project site observations to date.

- **Laguna 1**. Suitable habitat (vernal pools, vernal swales) not present at sediment removal locations. Project work will predominately be accomplished below the ordinary high water mark in willow scrub and/or perennial emergent wetland habitat, precluding the presence of vernal pool species associated with intermittent wetland. No special status species observed to date inside or adjacent to the project footprint. Potential habitat for special status species occurs on the south side of the property easement where there is seasonal ponding associated with fragmented swales and low lying areas. No special status species observed to date. Later surveys will evaluate emergent habitat in and adjacent to the project footprint for suitability to support white sedge and Sonoma alopecurus. The pictures below illustrate representative site conditions at this project location.

- **Laguna 5 and 6.**
  This section of the Laguna de Santa Rosa through the cities of Cotati and Rohnert Park has been highly modified over time. Side banks are either dominated by Himalayan blackberry and or non-native grasses and forbes. Landscape trees are scattered along the upper banks. Riparian cover is either provided by these non-native tree species or there are occasional willows that have established and been retained during vegetation maintenance. Instream habitat is dominated by *Alisma lanceolatum, Cyperus eragrostis, Rumex crispus*, and several native and non-native grasses. Suitable habitat (vernal pools, vernal swales) not present at sediment removal locations. No special status species observed to date inside or adjacent to the project footprint. Later surveys will evaluate emergent habitat in and adjacent to the project footprint for suitability to support white sedge and Sonoma alopecurus. The pictures below illustrate site conditions at this project location.

- **Santa Rosa 2.**
  This project involves lowering built up gravel bars that have established in the bottom of the flood control channel. As all work will be accomplished below the ordinary high water mark, vernal pool species are not a viable concern for this action. Suitable habitat (vernal pools, vernal swales) not present at gravel bar removal locations. No special status species observed to date inside or adjacent to the project footprint. Later surveys will evaluate emergent habitat in and adjacent to the project footprint for suitability to support white sedge and Sonoma alopecurus. The pictures below illustrate site conditions at this project location.

- **Windsor 1.**
  This site is at the downstream end of the Water Agency's easement on Windsor Creek Reach 1. This section of creek supports a comparatively generous riparian canopy of native tree species, emergent wetland habitat inchannel with non-native grasses and forbs dominating the side banks. Oregon ash (*Fraxinus latifolia*) is one of the dominant tree species establishing and being retained along this section of flood control channel. Sediment has accumulated in this area and is restricting flow through the culverts. Emergent wetland habitat occurs on the sediment wedge dominated by mint (*Mentha* sp.), water plantain (*Alsima lanceolata*), and ditch carrot (*Oenanthe sarmentosa*). Suitable habitat (vernal pools, vernal swales) not present at sediment removal locations. No special status species observed to date inside or adjacent to the project footprint. Still evaluating and surveying wetland emergent habitat in and adjacent to the project footprint for suitability to support white sedge and Sonoma alopecurus. The pictures below illustrate site conditions at this project location.

Follow-up surveys will be conducted in May (by the 15th) and in early June 2011. If listed plants such as Sonoma sunshine, goldfields, or meadowfoam are observed during plant surveys, the USFWS and CDFG will be notified prior to project implementation. If effects are unavoidable through re-design or flagging, the plants will be transplanted at an appropriate and secure location on- or off-site. Transplantation will be conducted in consultation with the USFWS and/or CDFG. If transplantation is not feasible or not approved by the Service or CDFG, then credits will be purchased from a Service or DFG-approved preservation bank.

Table 3-3. 2011 Projects on Reaches requiring Listed Plant Species Surveys

Location	Target Species for Survey
Reach Scale & Localized Sediment	
Laguna 1	Sebastopol meadowfoam, Burke's goldfields, Sonoma sunshine, many - flowered navarretia
Laguna 5 and 6	Sebastopol meadowfoam, Burke's goldfields, Sonoma sunshine, many-flowered navarretia
Santa Rosa 2	Sebastopol meadowfoam, Burke's goldfields, Sonoma sunshine, many-flowered navarretia
Windsor 1	Sebastopol meadowfoam, Burke's goldfields, Sonoma sunshine, many-flowered navarretia

Other Special-Status Species

Foothill Yellow-legged Frog

Pre-construction surveys for foothill yellow-legged frog are required at Adobe Creek Sediment Basin. Foothill yellow-frogs were found approximately 200 feet upstream of this sediment basin during 2010 wildlife surveys. However, none were found during focused pre-construction surveys for 2010 sediment removal.

Western Pond Turtle

Western pond turtles potentially occur in all SMP project sites listed in the 2011 Annual Notification. These sites will be surveyed prior to construction activities. Two western pond turtles were observed during red-legged frog surveys at Windsor Creek Culvert in February 2011. A completed California Natural Diversity Database field form was submitted and is attached. For vegetation maintenance activities occurring in areas where turtles have been identified as potentially occurring, a qualified biologist will conduct pre-maintenance surveys for turtles. The timing of surveys will be coordinated with the Maintenance Coordinator and be completed immediately prior to construction.

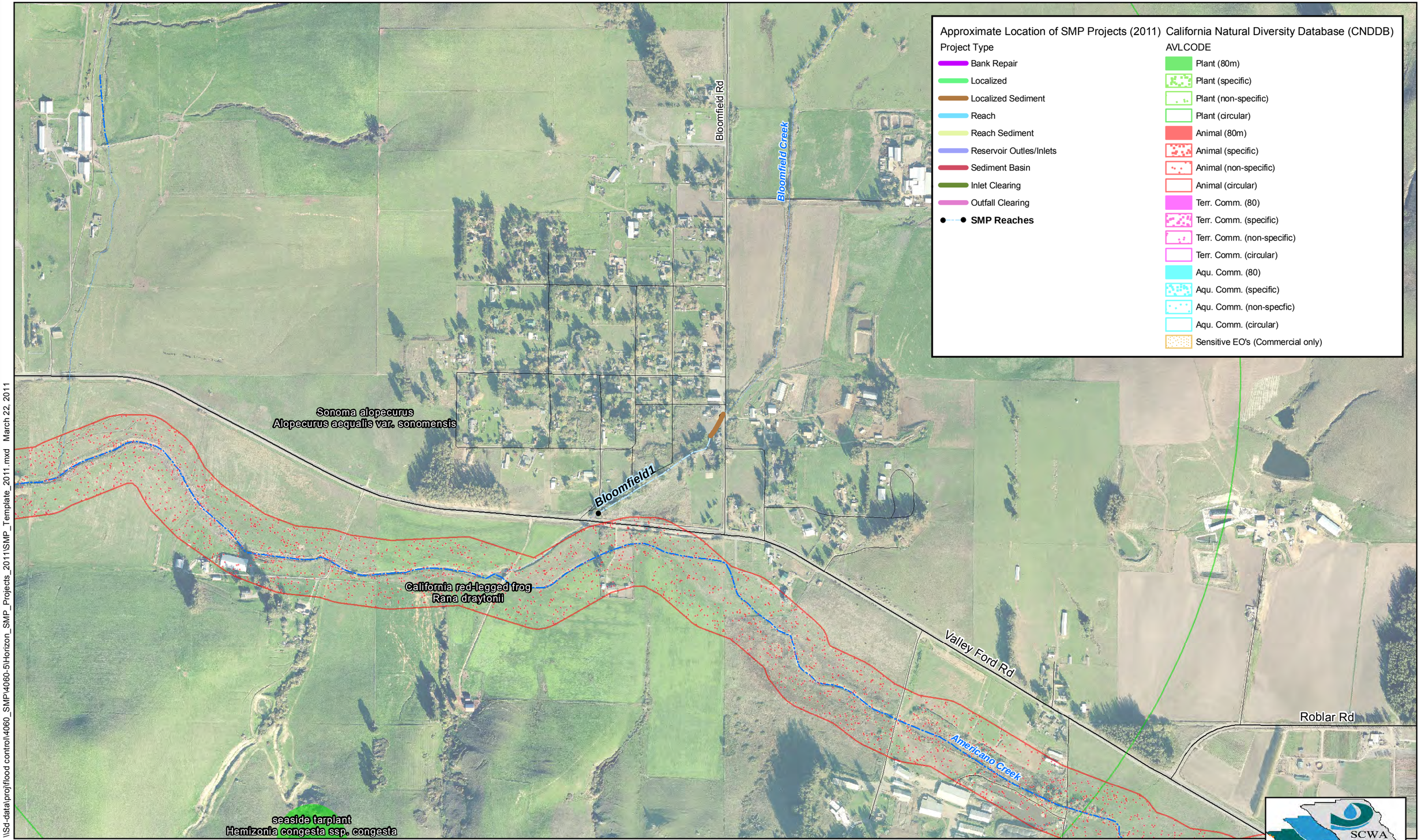
3D. Cultural Resources – Potential Area of Effect

Results of Site Surveys for Cultural Resources

Two of SCWA's 2011 projects would involve excavation into native soils. As identified in the SMP Manual, and more specifically in the BMPs for Cultural Resources (SMP Table 7-1), a cultural resources investigation is required prior to performing any such activity. As specified in the Cultural Resources BMPs, this investigation must include a background research and Native American consultation, a pedestrian survey, documentation, and application of management requirements (as required). The Cultural Resources Constraints Report prepared for the SMP was consulted to fulfill the requirements regarding background research and Native American consultation. In addition, SCWA has conducted a pedestrian survey for one bank stabilization site on April 11, 2011. The other bank stabilization project had a pedestrian survey conducted in 2010. These investigations concluded that there are no known cultural resources within the APE of the project sites. However, prior to the commencement of ground-disturbing activities, all SCWA personnel will be briefed on the importance of protecting cultural resources (BMP CR-5: *Staff Cultural Resources Training Program*), and if buried resources are accidentally discovered during ground-disturbing activities, appropriate measures will be implemented. These measures (BMPs CR-3: *Previously Undiscovered Cultural Resources* and CR-4: *Previously Undiscovered Paleontological Resources*) are described in detail in Chapter 7 of the SMP Manual.

Section 3

Project Location Maps with CNDDB Overlay



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Stream Maintenance Program Projects - 2011 Field Season

Bloomfield A

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Stream Maintenance Program Projects - 2011 Field Season

Rohnert Park/Cotati A

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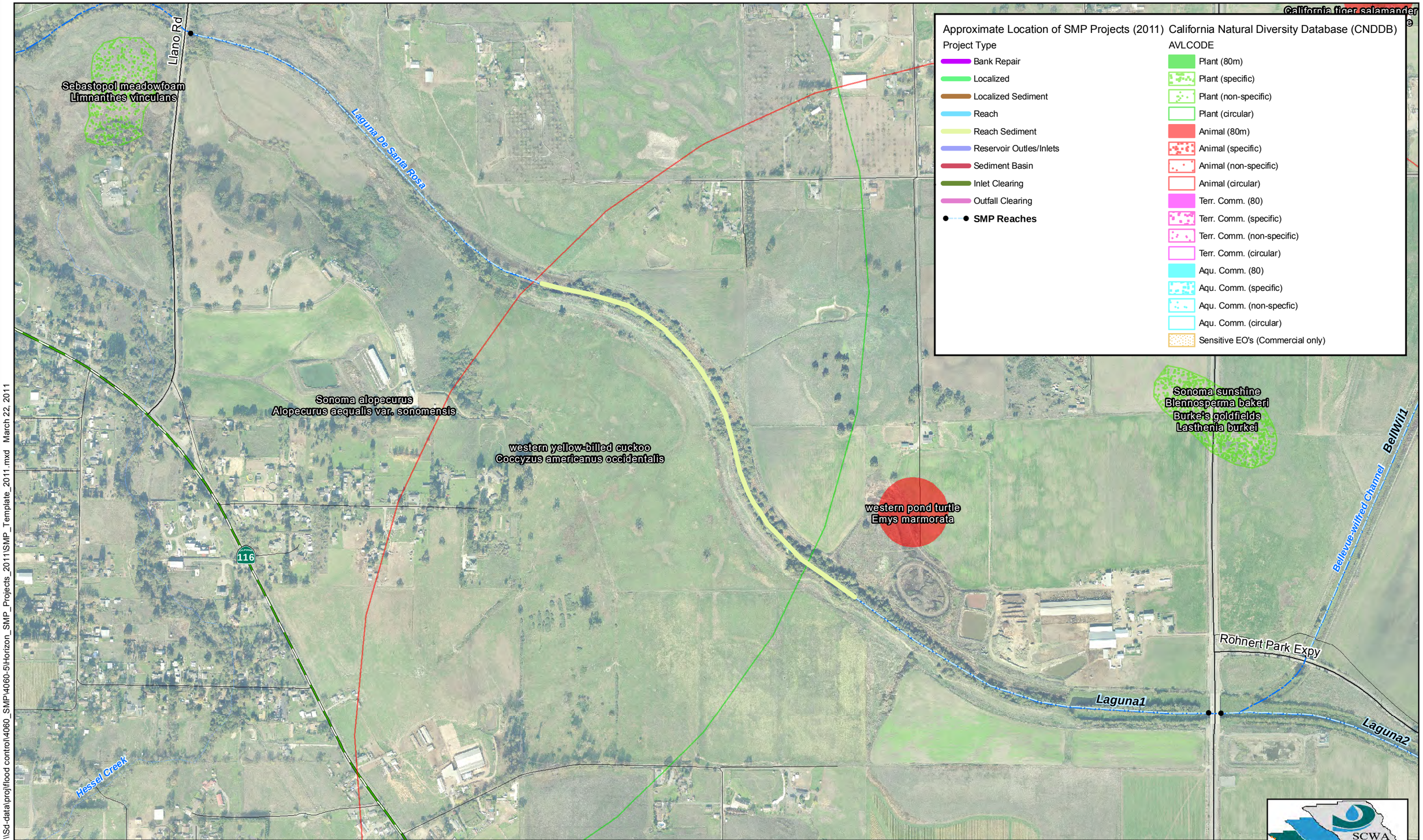

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Stream Maintenance Program Projects - 2011 Field Season

Rohnert Park/Cotati B

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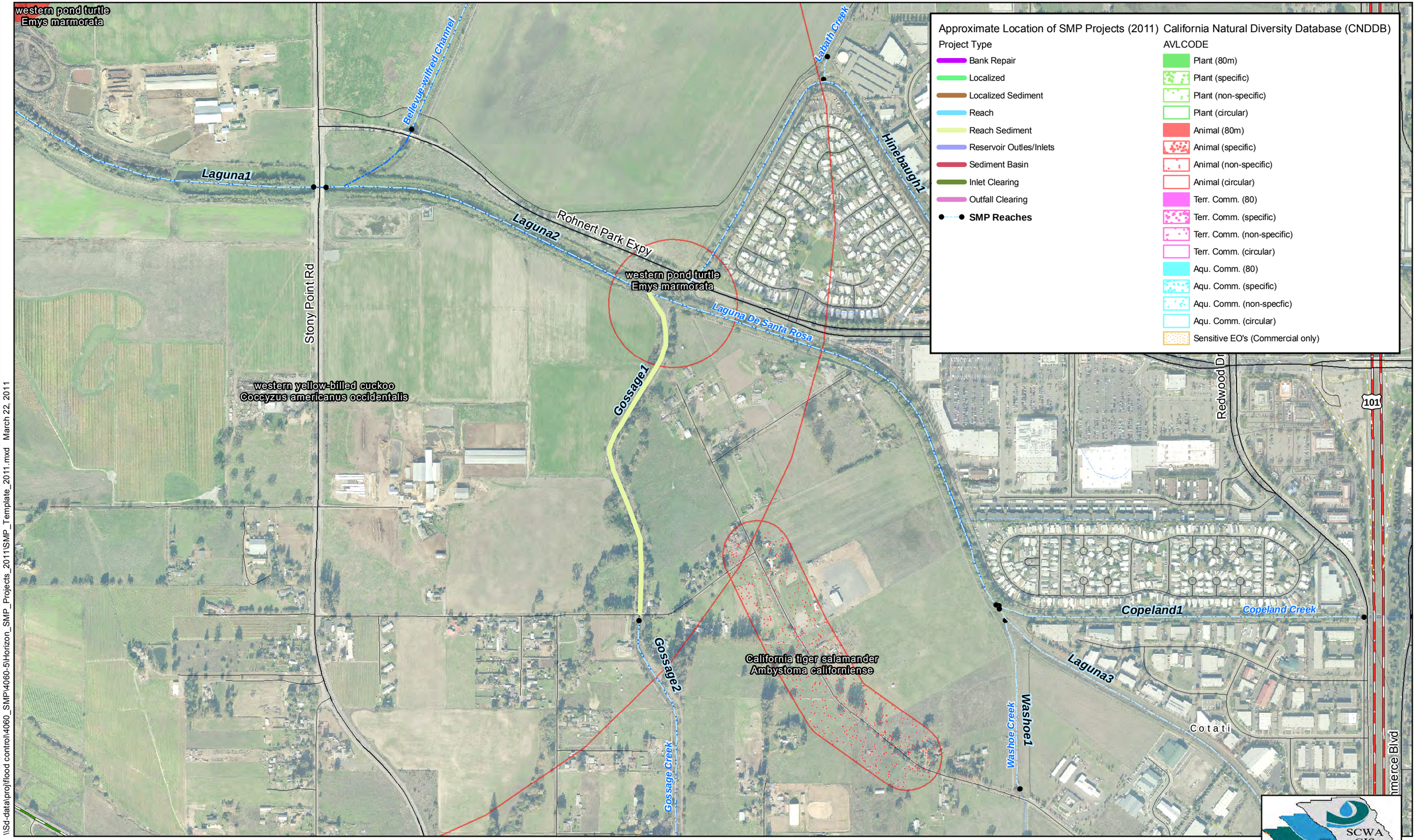

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Stream Maintenance Program Projects - 2011 Field Season

Rohnert Park/Cotati C

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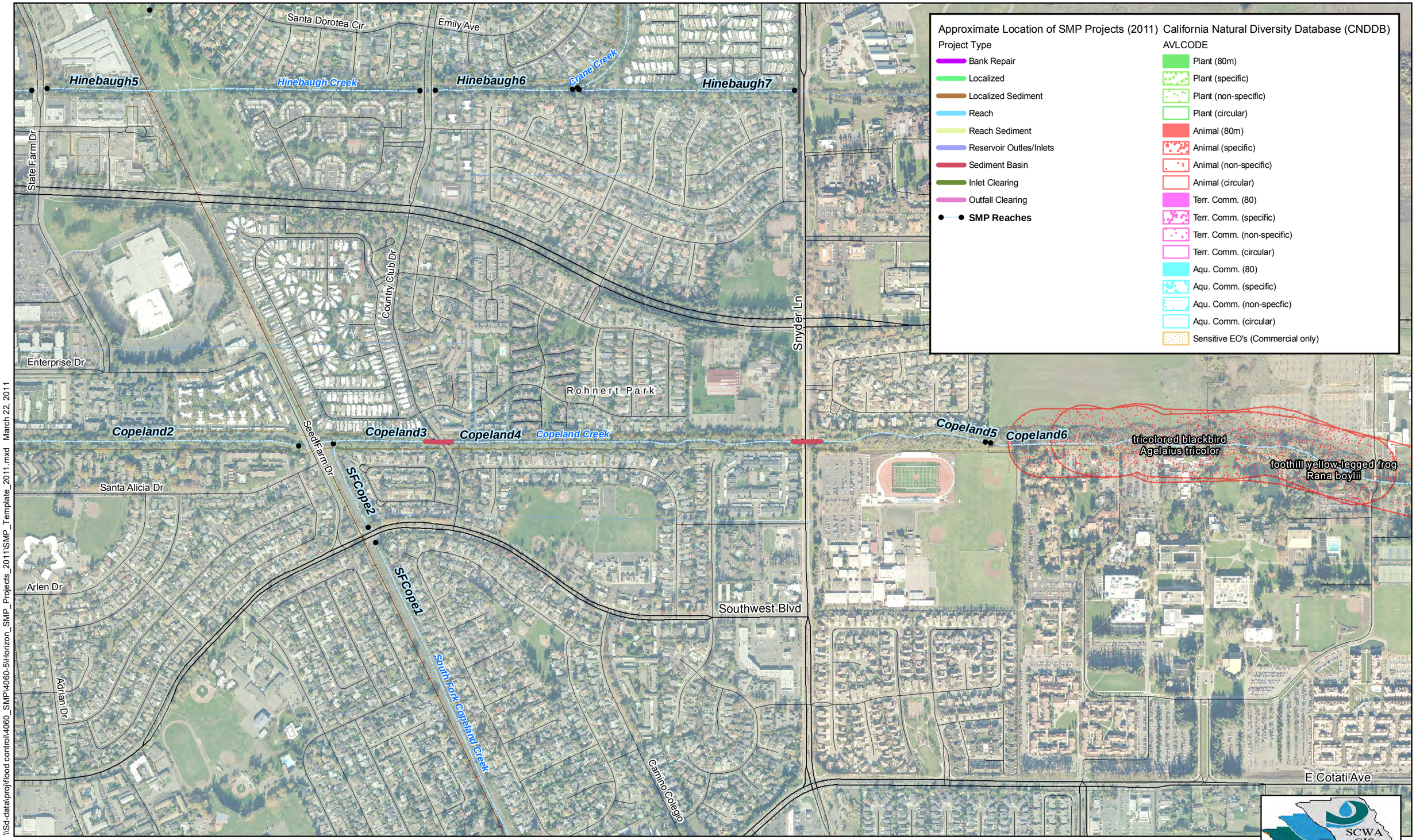

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Stream Maintenance Program Projects - 2011 Field Season

Rohnert Park/Cotati D

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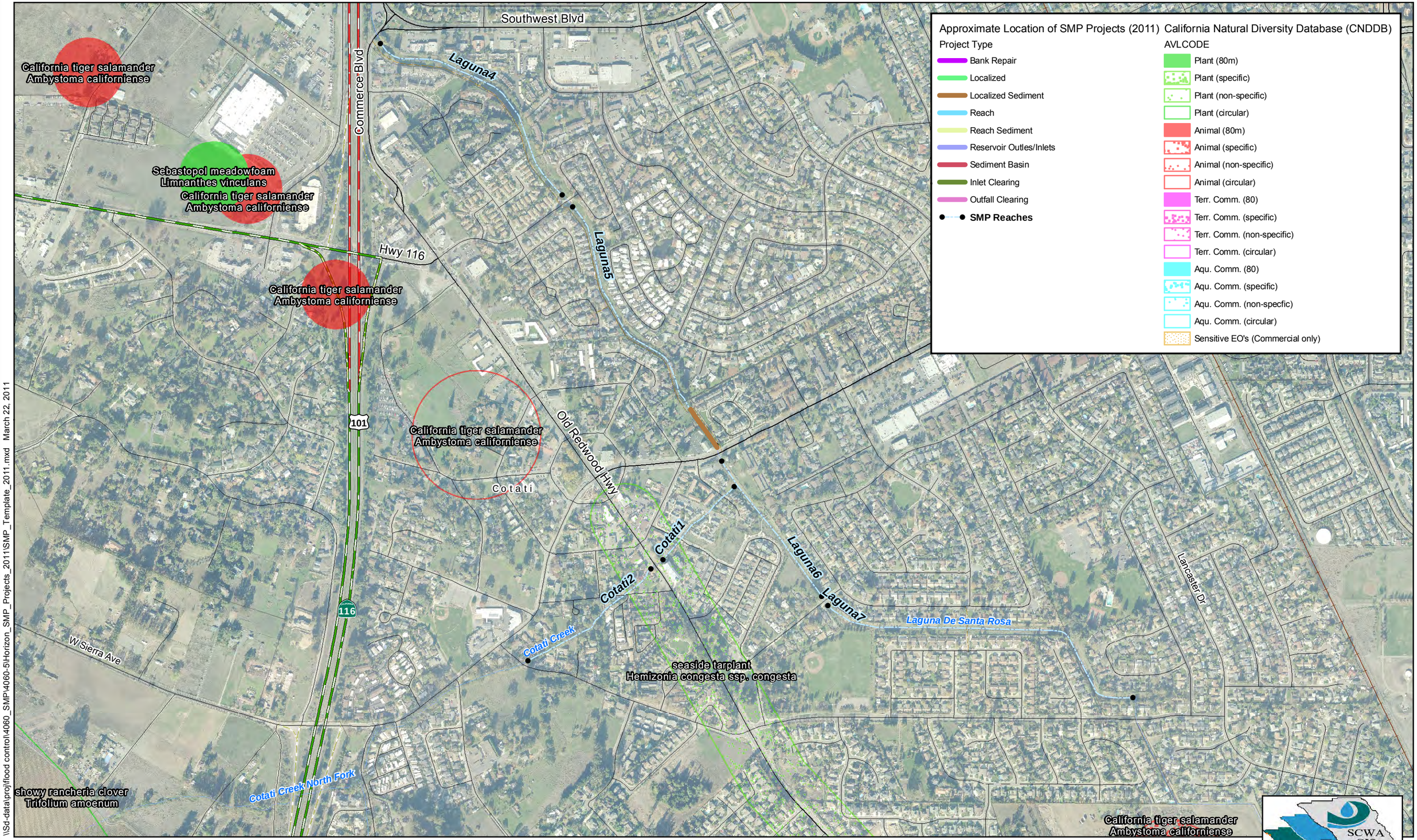

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Stream Maintenance Program Projects - 2011 Field Season

Rohnert Park/Cotati E

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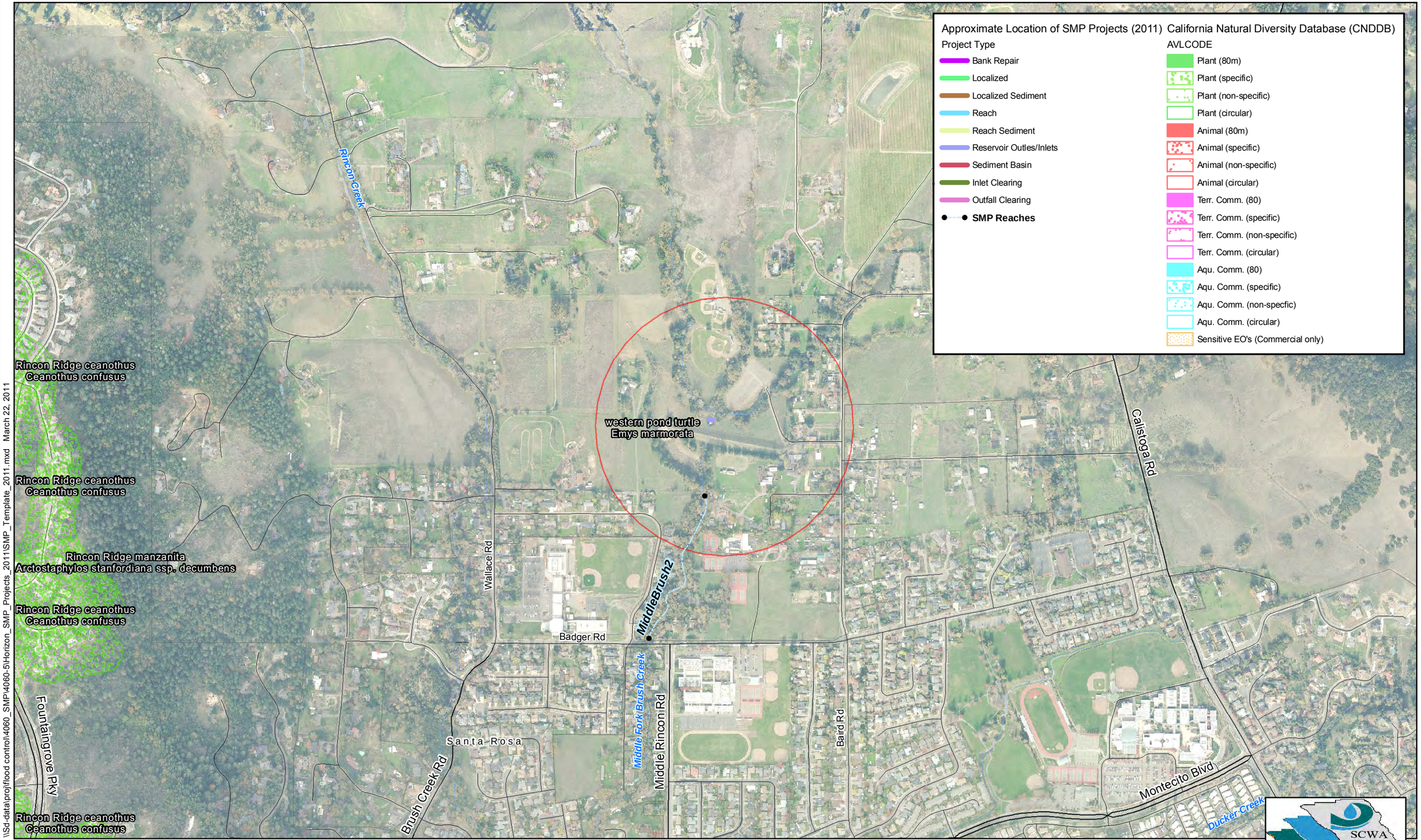

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Stream Maintenance Program Projects - 2011 Field Season

Santa Rosa A

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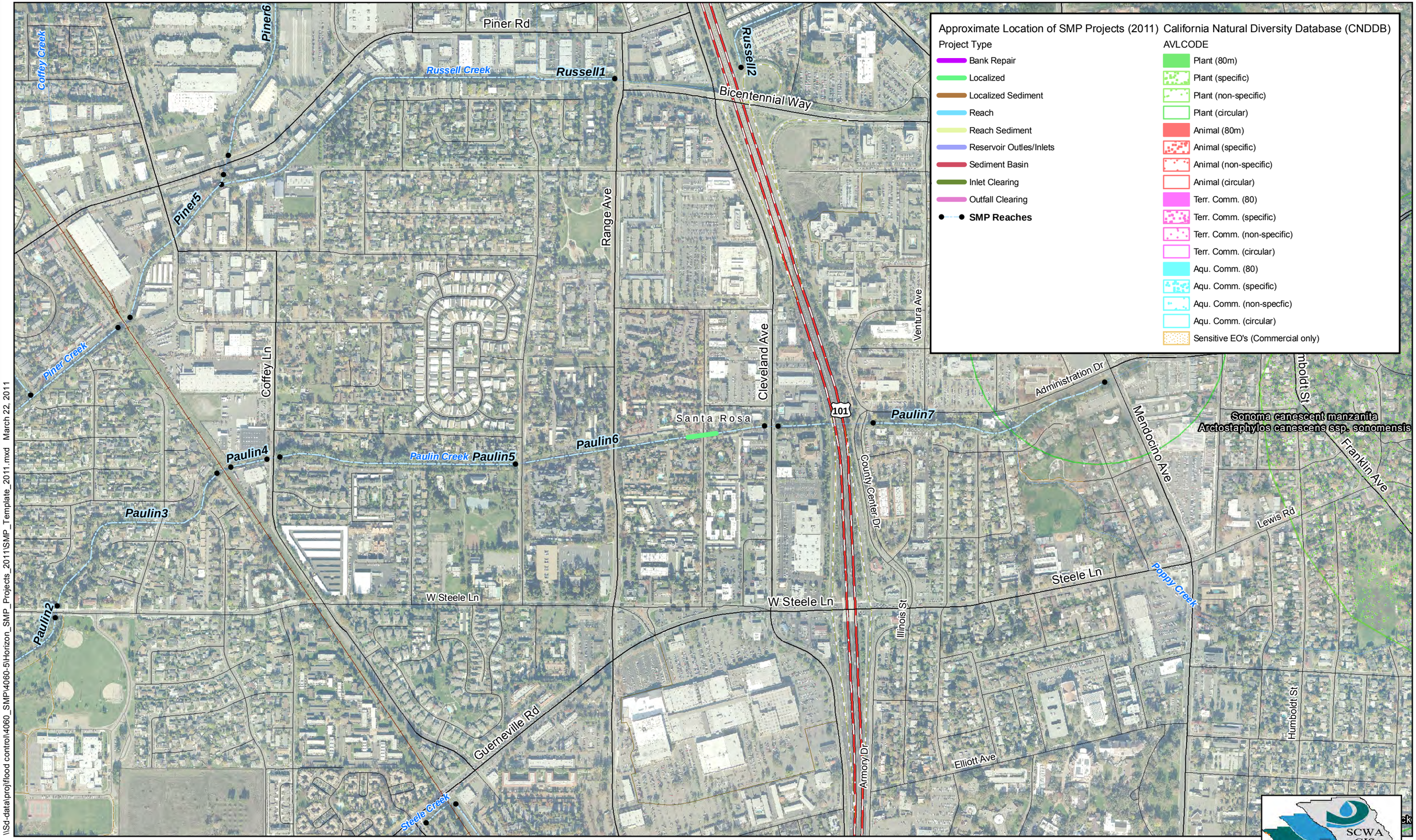

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Stream Maintenance Program Projects - 2011 Field Season

Santa Rosa B

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Stream Maintenance Program Projects - 2011 Field Season

Santa Rosa C

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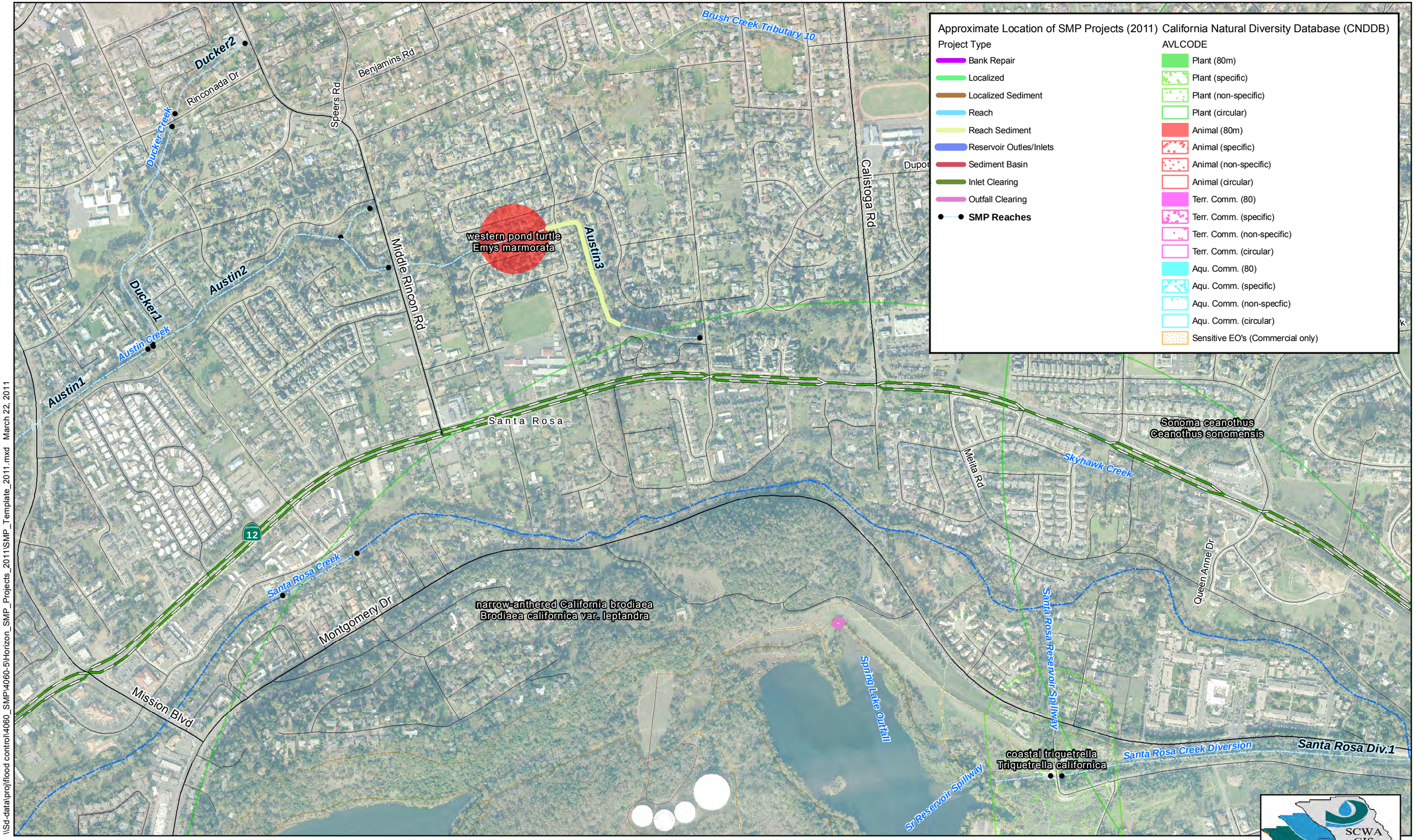

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Stream Maintenance Program Projects - 2011 Field Season

Santa Rosa D

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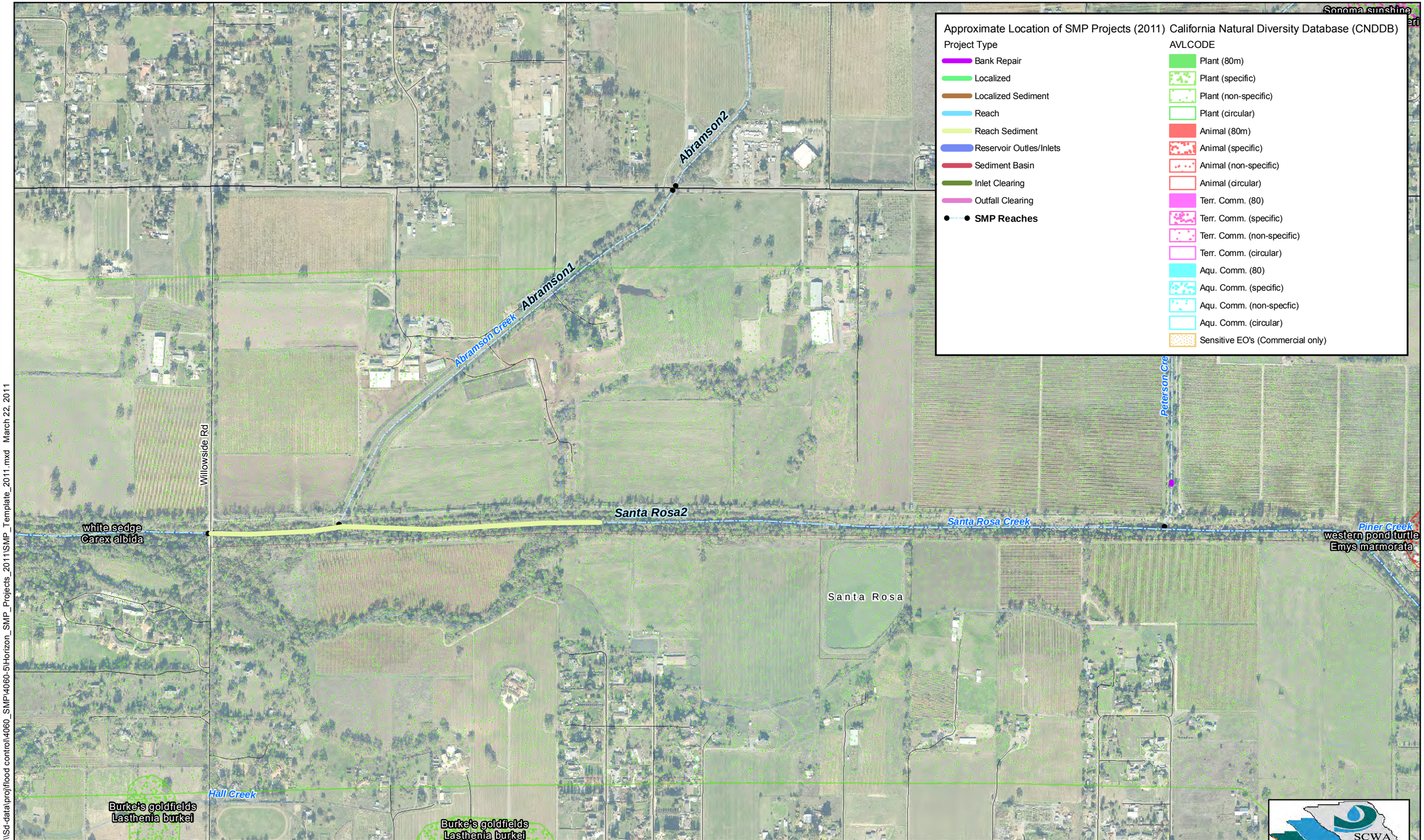

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Stream Maintenance Program Projects - 2011 Field Season

Santa Rosa E

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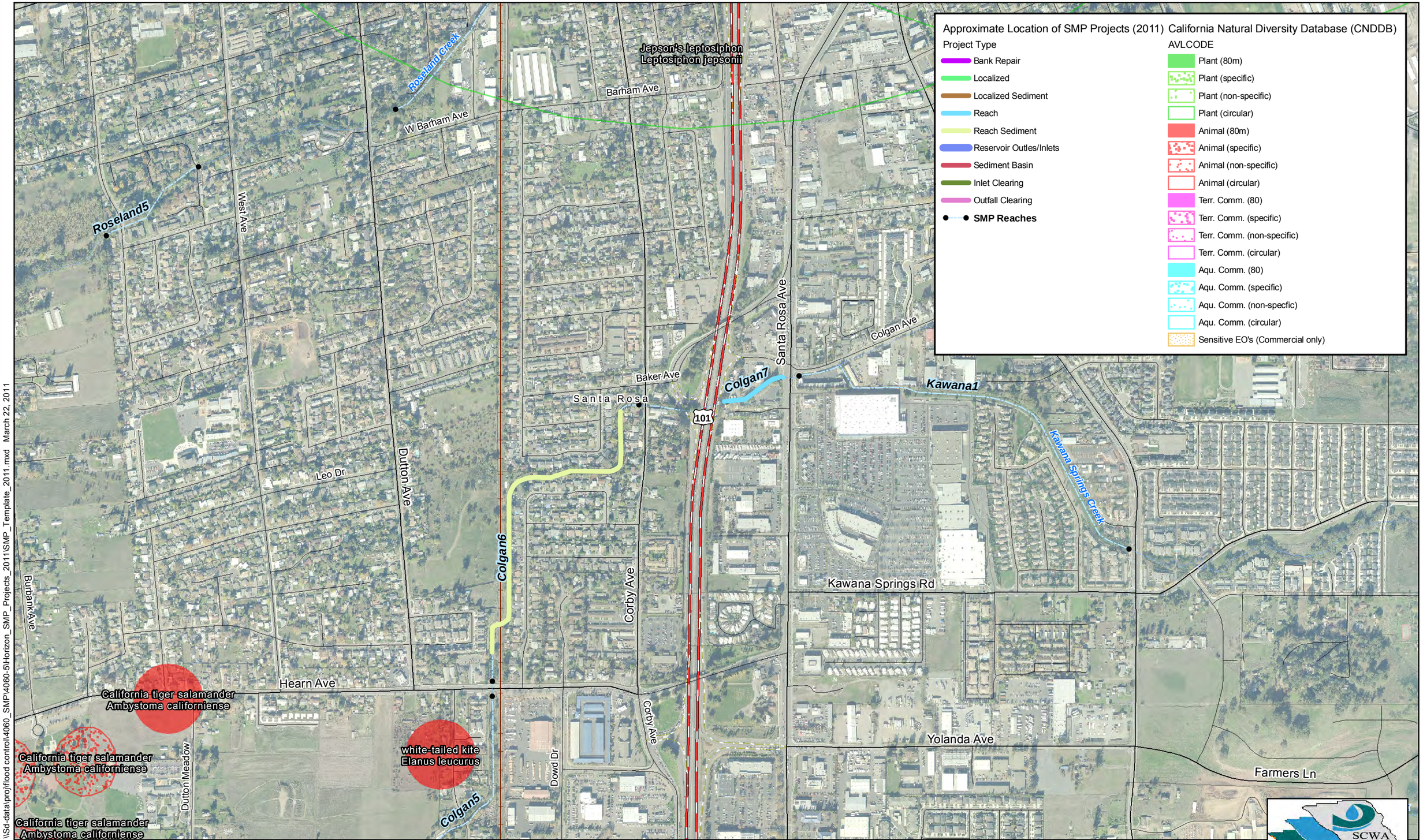

Stream Maintenance Program Projects - 2011 Field Season

Santa Rosa F

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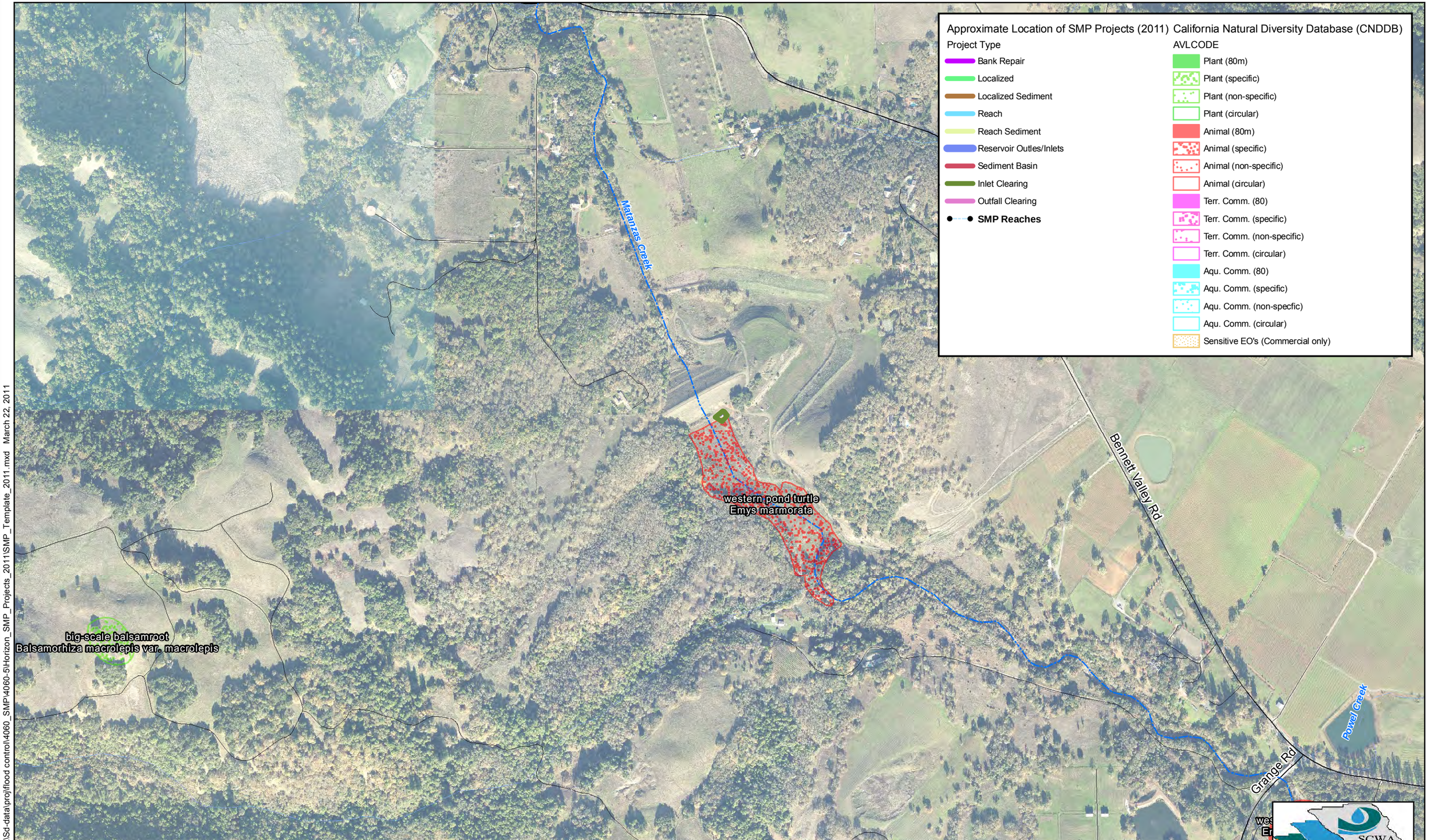

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Stream Maintenance Program Projects - 2011 Field Season

Santa Rosa G

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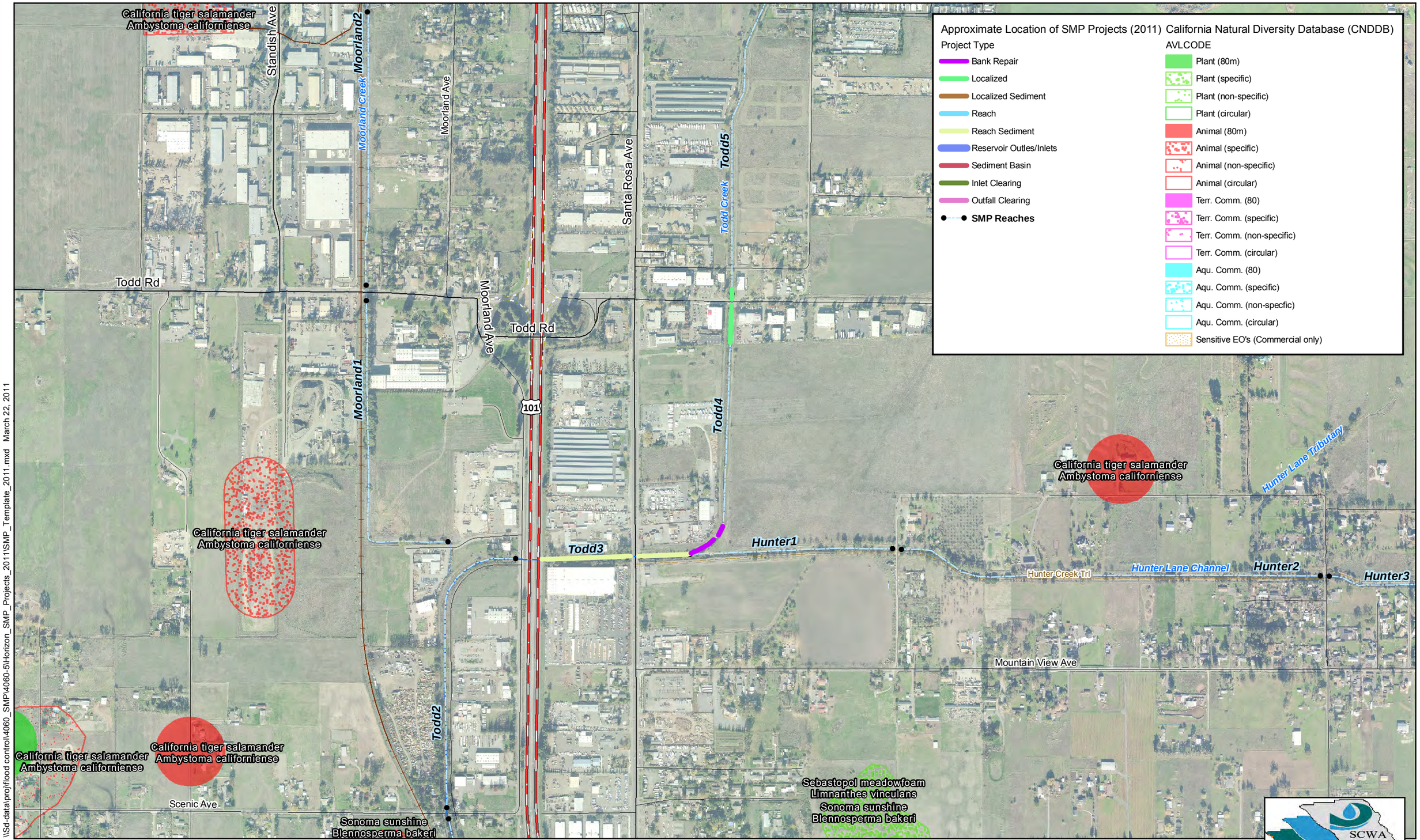

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Stream Maintenance Program Projects - 2011 Field Season

Santa Rosa H

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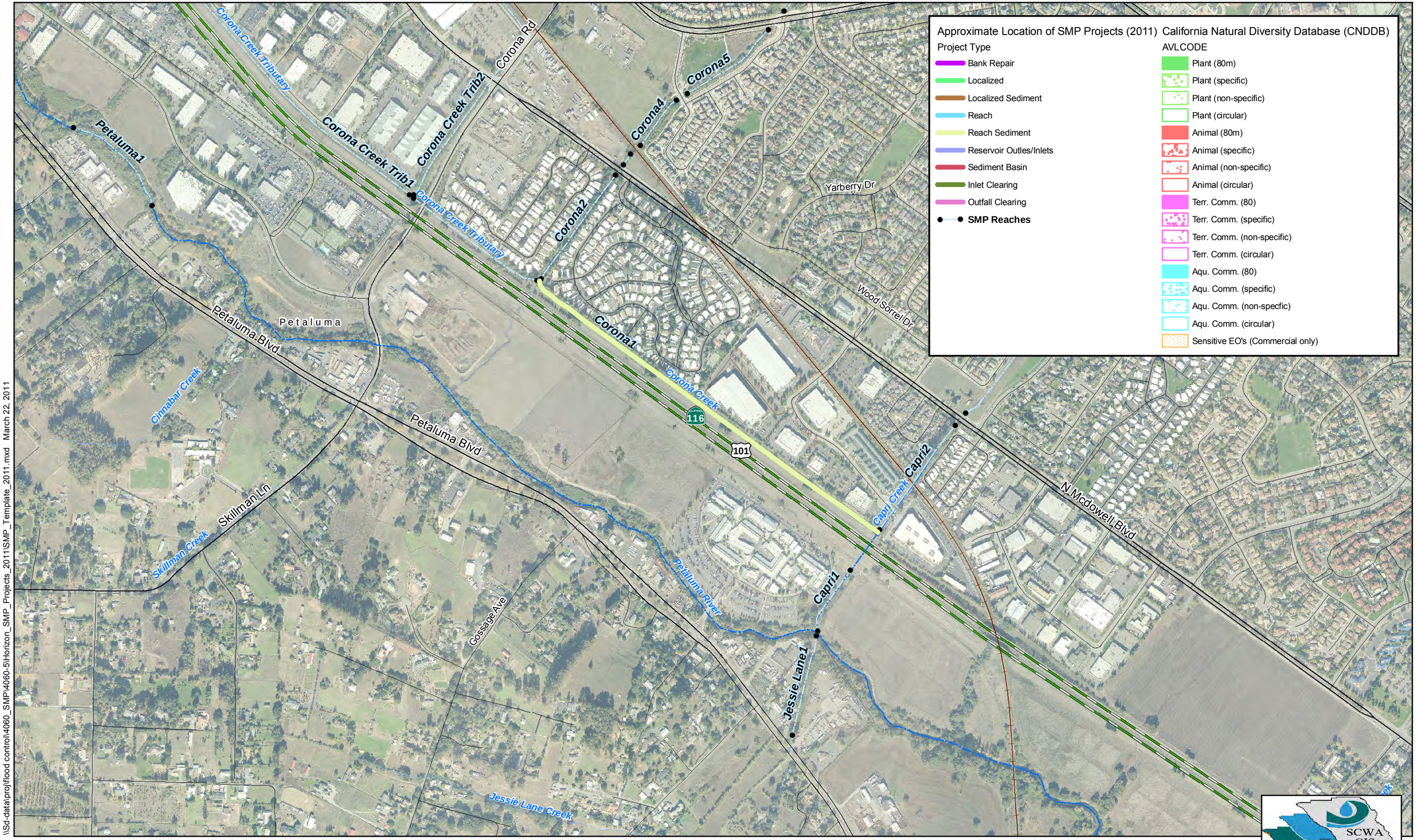

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Stream Maintenance Program Projects - 2011 Field Season

Petaluma A

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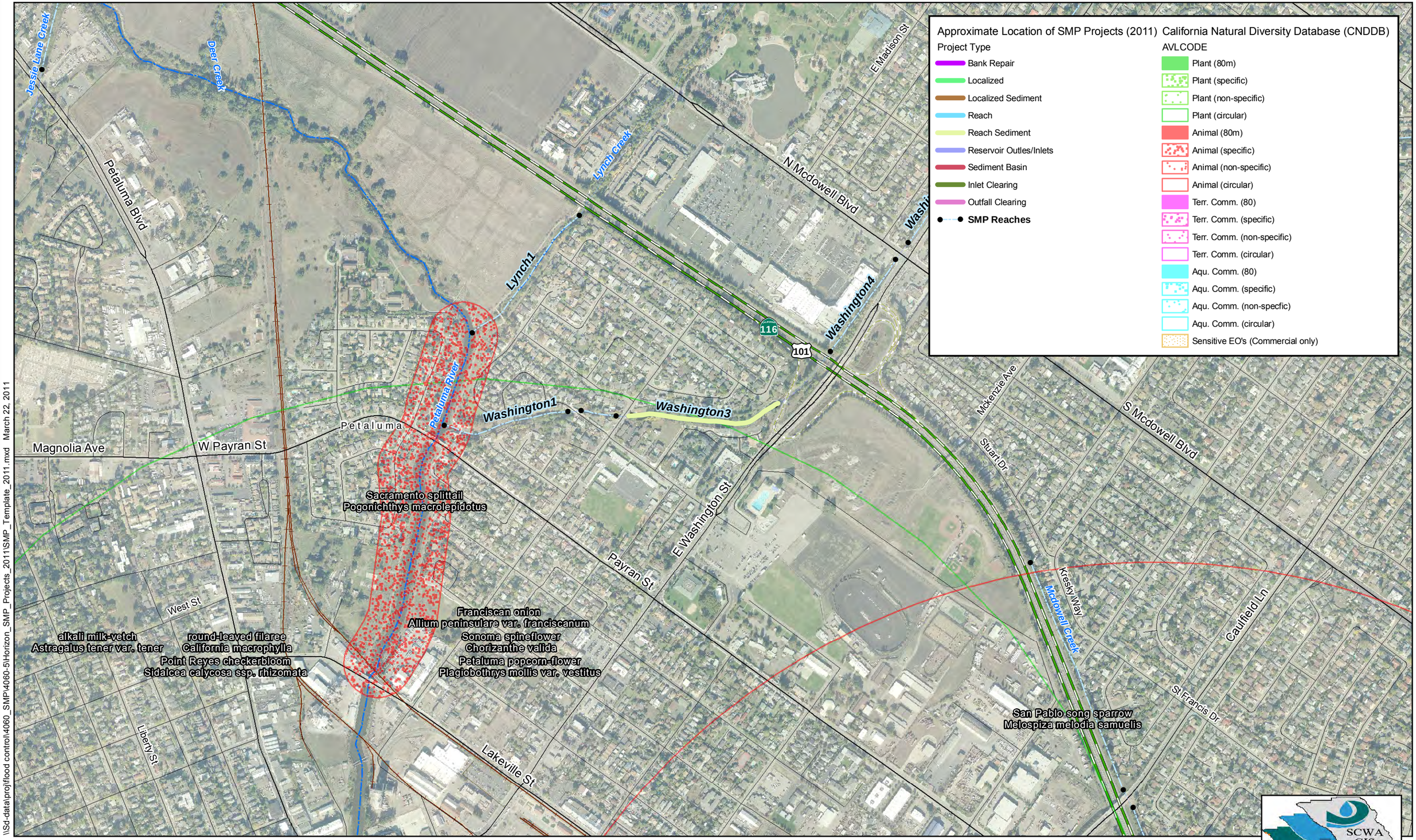

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Stream Maintenance Program Projects - 2011 Field Season

Petaluma B

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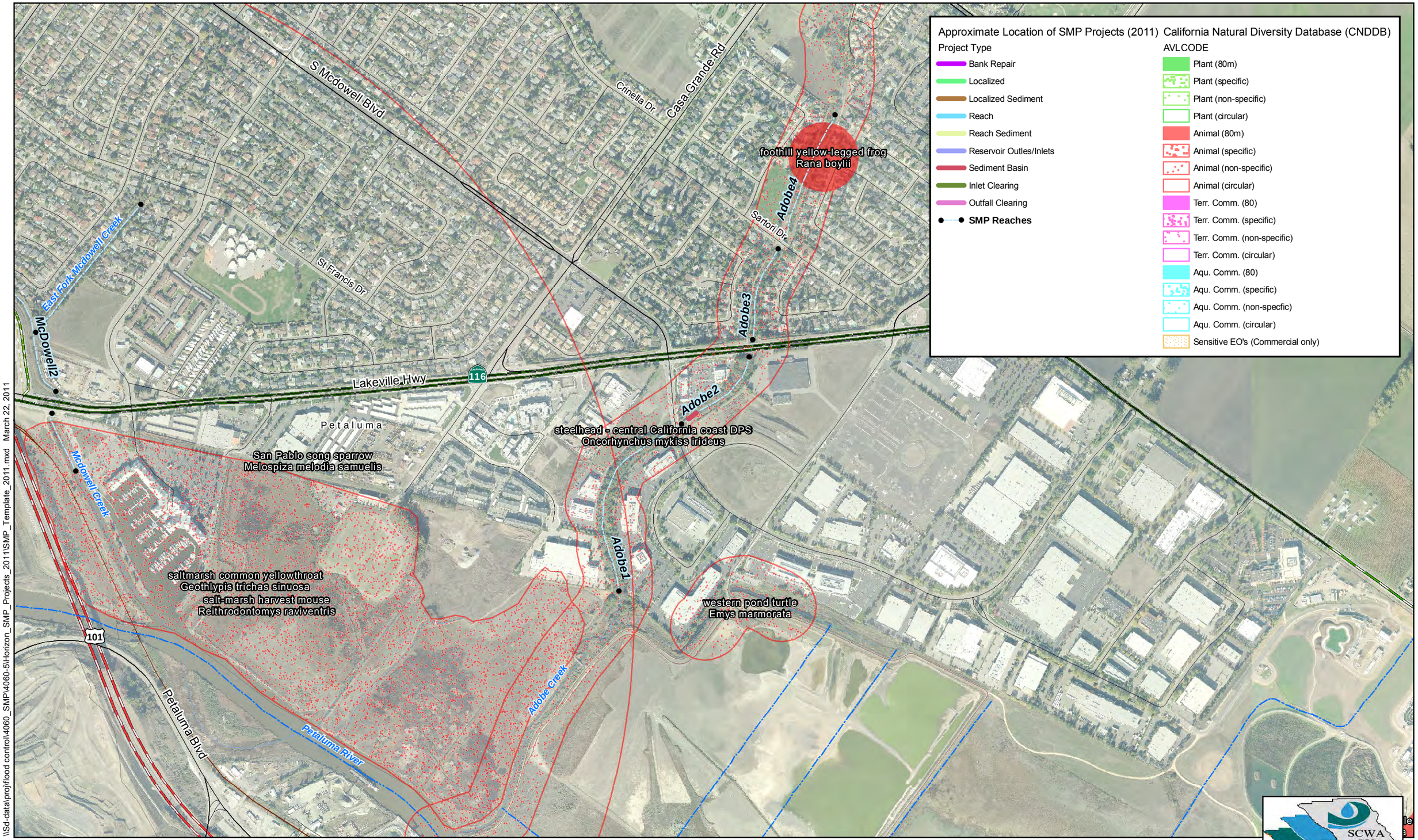

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Stream Maintenance Program Projects - 2011 Field Season

Petaluma C

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Stream Maintenance Program Projects - 2011 Field Season

Sonoma A

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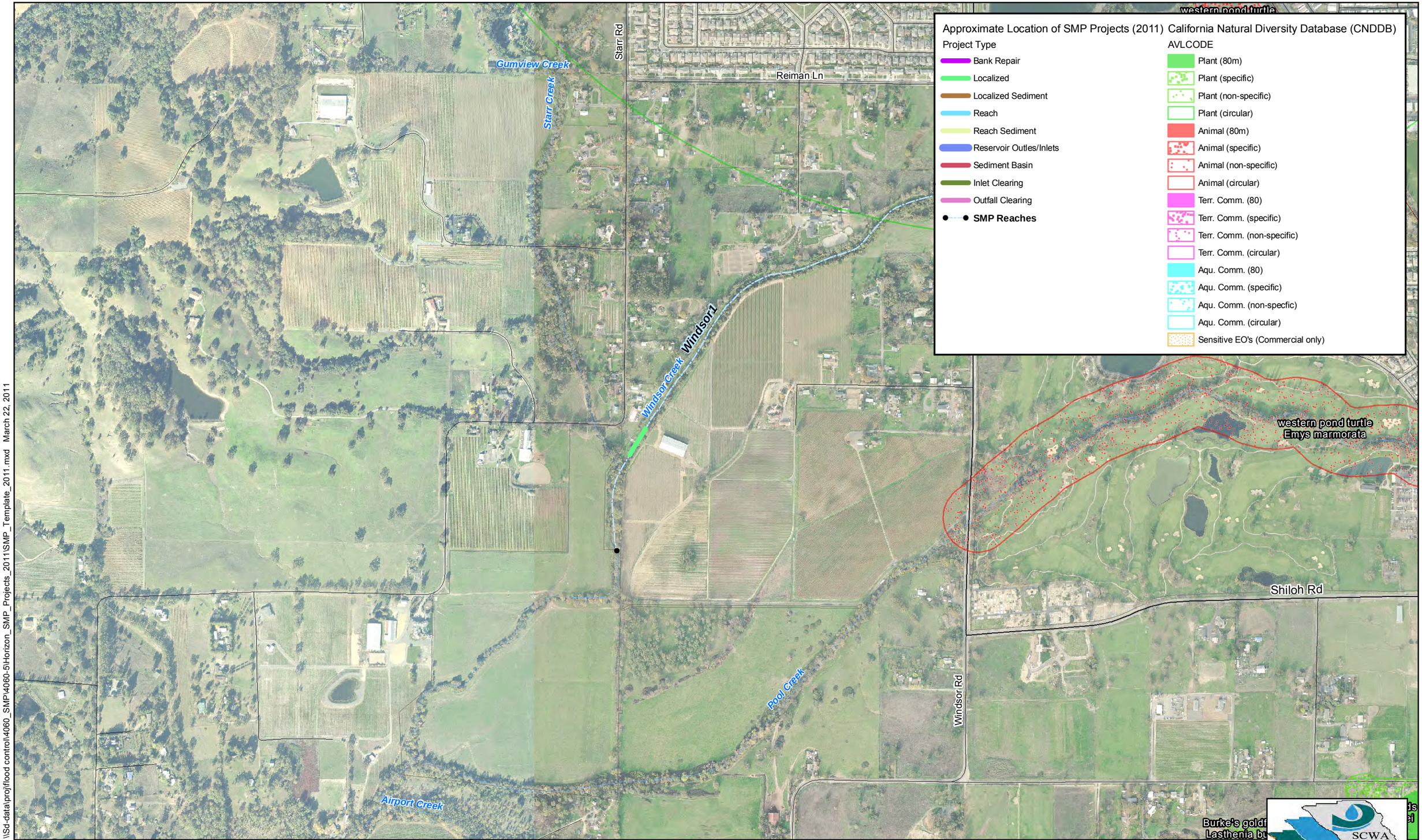

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Stream Maintenance Program Projects - 2011 Field Season

Windsor A

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Stream Maintenance Program Projects - 2011 Field Season

Sonoma A

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Section 3

Project Location Maps with CTS Occurrences Overlay

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Potential Occurrence and Distance Ranks for California Tiger Salamander
Operations and Maintenance Manual, Flood Zone 1A
Santa Rosa D

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Santa Rosa C

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Potential Occurrence and Distance Ranks for California Tiger Salamander
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Santa Rosa A

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Potential Occurrence and Distance Ranks for California Tiger Salamander
Operations and Maintenance Manual, Flood Zone 1A
Rohnert Park/Cotati D

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Potential Occurrence and Distance Ranks
for California Tiger Salamander
Operations and Maintenance Manual, Flood Zone 1A
Rohnert Park/Cotati B

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Potential Occurrence and Distance Ranks
for California Tiger Salamander
Operations and Maintenance Manual, Flood Zone 1A

Rohnert Park/Cotati E

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Potential Occurrence and Distance Ranks
for California Tiger Salamander
Operations and Maintenance Manual, Flood Zone 1A
Rohnert Park/Cotati C

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Potential Occurrence and Distance Ranks for California Tiger Salamander
Operations and Maintenance Manual, Flood Zone 1A
Rohnert Park/Cotati A

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Potential Occurrence and Distance Ranks for California Tiger Salamander
Operations and Maintenance Manual, Flood Zone 1A
Rohnert Park/Cotati F

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Section 4
Annual Mitigation Plan

This section describes the mitigation activities proposed for the 2011 maintenance projects. Sections 4A and 4B describe on-site and off-site mitigation activities, respectively. Table 4-6 summarizes maintenance project funding for the off-site Watershed Partnerships Program (WPP).
Table 4-7 provides summary statistics for areas impacted and mitigated for the 2011 maintenance season. Details project descriptions for each WPP projects utilized for the 2011 field season are included in Appendix C.

4A. On-Site Mitigation Activities (Tier 1)

On-site impact mitigation will be implemented at the specific project reach where the maintenance work was conducted. SMP Chapter 8 provides detail on how on-site mitigation is evaluated and designed to address impacts in the immediate maintenance project area, considering restoration and enhancement opportunities in the reach. On-site mitigation activities will restore or improve habitat that is affected by the sediment removal or bank stabilization activities within the general reach footprint in which the disturbance has occurred. On-site restoration typically restores and enhances a larger area than is impacted by maintenance activities. However, for simplicity in accounting, the on-site mitigation is calculated as a 1:1 ratio (acres disturbed to acres restored). As described in Chapter 8 of the SMP Manual, Tier 1 on-site mitigation activities include a robust planting program to develop a fuller riparian corridor and the removal of exotic and invasive species to enhance instream habitat and remove migration barriers.

More detailed descriptions of Tier 1 mitigation is provided in the Annual Summary Report (provided by January 31st) following completion of the restoration planting. In general restoration aims to add to existing vegetation and replace habitat that was disturbed during sediment removal or bank work. Specific treatments are selected to restore the type of habitat lost and enhance the existing vegetation. In other words, if a given reach currently supports an extensive riparian corridor, restoration efforts focus on creating complexity in

canopy layers (adding native shrub and grass understory) along with re-establishing instream graminoids (aquatic sedges, rushes and grasses). If a given reach has few trees or shrubs, then restoration focuses on establishing riparian habitat following the conceptual planting design (Figure 8-3 in the SMP Manual). Commonly, projects follow the conceptual planting designs, however, larger channels such as the lower Laguna de Santa Rosa and Santa Rosa Creek provide additional areas that can accommodate additional "planting lines" (areas where woody plants can be allowed in the stream cross section with a minimal loss to capacity). The preliminary planting approach for each project and type is identified in the table below (additional opportunities are indicated where feasible):

MAINTENANCE PROJECT	RESTORATION ACTIVITY
Bloomfield 1	▪ None-Cement channel
Localized Scale Sediment Removal	
Laguna de Santa Rosa 5 and 6	▪ Upper bank plantings -upland and riparian trees and shrubs ▪ Toe riparian tree and shrub plantings ▪ Establishing native grasses ▪ Establishing Instream graminoids
Windsor 1	▪ Toe riparian tree and shrub plantings ▪ Establishing native grasses ▪ Establishing Instream graminoids
Reach Scale Sediment Removal	
Austin 3	▪ Upper bank plantings -upland and riparian trees and shrubs ▪ Toe riparian tree and shrub plantings ▪ Establishing native grasses ▪ Establishing Instream graminoids
Coleman 2	▪ Upper bank plantings -upland and riparian trees and shrubs ▪ Toe riparian tree and shrub plantings ▪ Establishing native grasses ▪ Establishing Instream graminoids
Colgan 6 (in non-cement portion)	▪ Upper bank plantings -upland and riparian trees and shrubs ▪ Toe riparian tree and shrub plantings ▪ Establishing native grasses ▪ Establishing Instream graminoids
Corona 1	▪ Upper bank plantings -upland and riparian trees and shrubs ▪ Toe riparian tree and shrub plantings ▪ Establishing native grasses ▪ Establishing Instream graminoids
Fryer 2 and 3	▪ Upper bank plantings -upland and riparian trees and shrubs ▪ Toe riparian tree and shrub plantings ▪ Establishing native grasses ▪ Establishing Instream graminoids
Gossage 1	▪ Upper bank plantings -upland and riparian trees and shrubs ▪ Toe riparian tree and shrub plantings ▪ Establishing native grasses ▪ Establishing Instream graminoids
Laguna De Santa Rosa 1	▪ Upper bank plantings -upland and riparian trees and shrubs ▪ Toe riparian tree and shrub plantings ▪ Thalweg planting of riparian trees (both sides) ▪ Mid-shelf planting riparian trees and shrubs ▪ Establishing native grasses ▪ Establishing Instream graminoids

MAINTENANCE PROJECT	RESTORATION ACTIVITY
Todd 3 and 4	▪ Upper bank plantings -upland and riparian trees and shrubs ▪ Toe riparian tree and shrub plantings ▪ Establishing native grasses ▪ Establishing Instream graminoids
Washington 3	▪ Upper bank plantings -upland and riparian trees and shrubs ▪ Toe riparian tree and shrub plantings ▪ Establishing native grasses ▪ Establishing Instream graminoids
Sediment Basin/Instream Basin Sediment	
Adobe 2	▪ none
Cook 2	▪ none
Copeland 3 & 4	▪ none
Copeland 4 & 5	▪ none
Five 1	▪ none
Wilfred 1	▪ none
Reservoir Inlet Clearing	
Brush	▪ none
Matanzas	▪ none
Piner	▪ none
Santa Rosa	▪ none
Bank repairs	
Fryer 4	▪ Toe riparian tree and shrub plantings ▪ Establishing native grasses ▪ Establishing Instream graminoids
Todd 4	▪ Toe riparian tree and shrub plantings ▪ Establishing native grasses ▪ Establishing Instream graminoids

Bank Repairs

In general restoration of bank repair sites is implemented consistent with SMP Manual planting standards (section of SMP). Generally, however, restoration is limited to the area disturbed and locations immediately adjacent to the repair. In most cases work involved requires filling and minor use of rock revetment in combination with installation of landscape fabric and plant species anticipated to further anchor the toe of the slope. Often this work occurs slightly above, at, or below the ordinary high water mark for any given channel. As a result most disturbance related to a bank repair is on the side slope of the channel or at the toe. Habitat generally disturbed by these repairs is instream emergent wetland habitat, open water habitat, or ruderal grassland on the side slopes. The SMP and current permits mandate that restoration be "in-kind" for the type of habitat disturbed at a 1 to 1 replacement ratio with a 75 percent success criterion after five years of monitoring and maintenance.

The restoration approach following bank stabilization is to plant riparian tree and instream graminoid species along the new toe and seed the disturbed portion of the bank with a native perennial grass mixture. Species such as, Red and Pacific willows (*Salix laevigata/lasiandra lucida*), white alder (*Alnus rhombifolia*), Fremont poplar (*Populus fremontii*) and Oregon ash (*Fraxinus latifolia*) are installed at or slightly above the bottom of the channel (toe). Trees

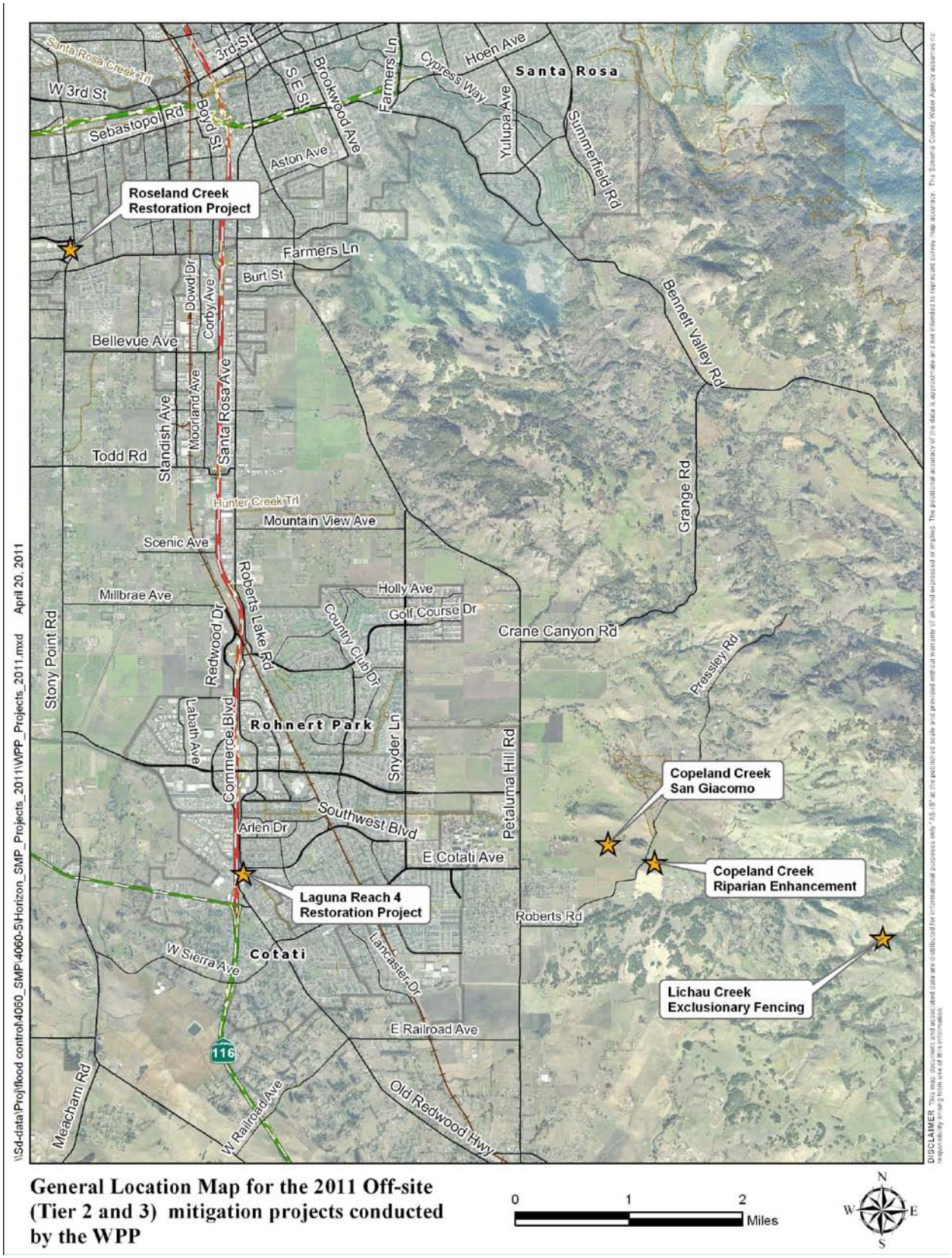
are installed on 20 foot centers on both sides of the channel. Instream and wetland fringe graminoids are installed at the toe on 10 foot centers. Suitable species for use at the toe in flood control channels include Santa Barbara sedge (*Carex barbarae*), torrent sedge (*Carex nudata*), small-fruited bulrush (*Scirpus microcarpus*), tule (*Scirpus acutus occidentalis/ S. californica),* rushes (*Juncus* sp.) and creeping blue rye (*Leymus triticoides*). This approach will be added to the SMP manual when it is updated in 2015.

4B. Off-Site Mitigation Activities (Tiers 2 and 3)

As described in the SMP Manual, off-site mitigation is provided to address the temporal gap between when on-site impacts occur and when on-site mitigation is provided. Tier 2 mitigation provides in-kind mitigation at neighboring SMP reaches that afford an opportunity for mitigation. Tier 3 mitigation projects provide restorative and mitigating watershed solutions that address SMP impacts at an off-site location. Tier 2 and 3 mitigation is implemented through a 10% matching contribution of SMP maintenance costs. SMP off-site watershed mitigation is led and funded by SCWA through a grant program to distribute funding to partnering agencies. The Watershed Partnerships Program (WPP) that was formed by SCWA funds and implements projects collaboratively with local non-profit agencies and Resource Conservation Districts (RCDs).

WPP partners are required to meet SMP permit requirements during development and implementation of their projects. Taken together with Tier 1 onsite mitigation these projects address the impacts of 2011 maintenance activities by conducting in-kind riparian and stream restoration in geographic proximity to this year's SMP maintenance. The success criteria and commitments described in the SMP Manual regarding implementation of off-site restoration projects apply to all of the 2011 WPP projects. These criteria and commitments include describing planting success rates (75%), a 5-yr monitoring period with annual reporting, and a description of what happens in the event of unsuccessful projects. 2011 WPP project locations are designated in Figure 4-1 below. WPP project proposals are included in Appendix C. Cost and area accounting for 2011 WPP proposed projects is indicated in Tables

Figure 4-1: General Location Map for the 2011 Off-site (Tier 2 and 3) mitigation projects.



General Location Map for the 2011 Off-site (Tier 2 and 3) mitigation projects conducted by the WPP

Table 4-1: List of Tier 3 Restoration Projects

Project Name	Project Size	Project Cost	Year Completed	Project Purpose
Cotati Creek Critters: 2011 Laguna Reach 4 Restoration Phase I	1.45 acres	$45,320	2011	Invasive plant removal and plant installation on SCWA channel utilizing students, teachers from SSU, SRJC, CCNB, and community volunteers
Sotoyome RCD: 2011 Copeland Creek Riparian Enhancement and Erosion Control Project Phase I	3.6 acres	$118,434	2011	Bank stabilization, planting of native vegetation, and installing riparian fencing in collaboration with local landowners, STRAW, and Sonoma State University students and staff
STRAW: 2011 Roseland Creek Phase I Restoration Project	0.16 acres	$31,901	2011	Removal of the non-native Himalayan Blackberry and planting of native trees and shrubs utilizing Shepherd Elementary School and PCI
STRAW: 2011 Copeland Creek (San Giacomo) Riparian Enhancement and Bank Stabilization Project Phase VII	1.14 acres	$24,909	2011	Bank stabilization, planting of native vegetation utilizing Lawrence E Jones Middle School, Waldo-Rohnert Elementary and Thomas Paige Elementary
Southern Sonoma RCD: 2011 Lichau Creek Exclusionary Fencing Project Phase I	11.94 acres	$46,574	2011	Exclusionary fencing along headwaters of Lichau Creek utilizing the landowner and SCAPOSD
Totals	**18.29 acres**	**$276,138**		

Table 4-2. Summary of Maintenance Costs and Off-Site Mitigation Contributions

Project	Cost	Off-Site Mitigation Contribution
2011 Localized Sediment Removal Projects		
Bloomfield 1 (Zone 8A)	$34,241	$3,424
Laguna 5 and 6	$28,262	$2,826
Windsor 1	$17,528	$1,753
2011 Sediment Basin/Instream Basin Clearing Projects		
Adobe Creek Sediment Basin (Zone 2A)	$26,770	$2,677
Cook Creek Sediment Basin	$8,031	$803
Copeland Creek at Country Club	$17,829	$1,783
Copeland Creek at Snyder	$36,567	$3,657

Five 1	$10,708	$1,071
Wilfred Creek at Snyder	$5,889	$589
2011 Reach Scale Sediment Removal Projects		
Austin 3	$44,321	$4,432
Coleman 2	$39,370	$3,937
Fryer 2 & 3 (Zone 3A)	$28,686	$2,869
Gossage 1	$111,194	$11,119
Laguna 1	$320,882	$32,088
Santa Rosa 2	$166,859	$16,686
2011 Bank Repair Projects		
Fryer 4 (Zone 3A)	$7,171	$717
2009/2010 Permitted Projects to be Implemented in 2011[1]		
Corona 1 (reach-scale, Zone 2A)	$40,295	$4,030
Todd 3 & 4 (reach-scale)	$87,661	$8,766
Washington 3 (reach scale, Zone 2A)	$24,683	$2,468
Todd 4 (bank repair)	$21,915	$2,192
Brush (reservoir inlet clearing)	$4,652	$465
Matanzas (reservoir inlet clearing)	$11,631	$1,163
Piner (reservoir inlet clearing)	$4,652	$465
Santa Rosa Creek (Spring) (reservoir inlet clearing)	$11,631	$1,163
Cost and Mitigation Totals		
Zone 1A total	$949,582	$94,958
Zone 2A total	$91,748	$9,175
Zone 3A total	$35,857	$3,586
Zone 8A total	$34,241	$3,424
Maintenance Cost and Mitigation Requirements (Total)	***$1,111,428***	***$111,143***

*located in Zone 1A unless otherwise denoted

1 – Though permitted in 2009 / 2010, mitigation funding for these projects has not yet been collected, this funding will be collected for the 2011 maintenance season.

Table 4-3. 2011 Proposed Mitigation Projects

2011 WPP Mitigation Projects	
Cotati Creek Critters: 2011 Laguna Reach 4	$45,320
Sotoyome RCD: 2011 Copeland Creek Phase I	$118,434
STRAW: 2011 Roseland Creek Phase I	$31,901
STRAW: 2010/2011 San Giacomo Phase VII	$24,909
Southern Sonoma RCD: 2011 Lichau Creek Phase I (Zone 2A)	$46,574
WPP Zone 1A total	*$220,564*
WPP Zone 2A total	*$46,574*
Off Site Mitigation Funding provided by SCWA in 2011	***$267,138***
Carry-over Mitigation Projects from 2010	***$64,675***
Total Off Site Mitigation Funding	***$331,813***
2011 Off Site Mitigation Funding Requirement	**$111,143**
Funded Mitigation Credit Available to Apply to Subsequent Seasons	**$220,332**

Table 4-4. Accounting of Impacts and Mitigation

Project and Type	Impact (acres)	Mitigation (acres)	Ratio of Mitigation to Impact
On-Site Mitigation			
2011 Maintenance Projects			
Bloomfield Creek – localized sediment removal (Zone 8A) (entirely within concrete channel)	n/a	n/a	n/a
Laguna de Santa Rosa 5 and 6-localized sediment removal	0.11	0.11	1:1
Windsor Creek– localized sediment removal	0.11	0.11	1:1
Adobe Creek -sediment basin (Zone 2A)	n/a	n/a	Sed-Basin**
Cook Creek - sediment basin	n/a	n/a	Sed-Basin
Copeland Creek at Country Club – sediment basin	n/a	n/a	Sed-Basin
Copeland Creek at Snyder – sediment basin	n/a	n/a	Sed-Basin
Five Creek – sediment basin	n/a	n/a	Sed-Basin
Wilfred at Snyder – sediment basin	n/a	n/a	Sed-Basin
Austin Creek - reach scale sediment removal	0.30	0.30	1:1
Coleman Creek – reach scale sediment removal	0.40	0.40	1:1
Fryer Creek – reach scale sediment removal (Zone 3A)	0.21	0.21	1:1
Gossage Creek – reach scale sediment removal	1.30	1.30	1:1
Laguna 1 – reach scale sediment removal	2.42	2.42	1:1
Santa Rosa Creek – reach scale sediment removal	3.00	3.00	1:1
Fryer Creek 4 – bank stabilization	0.003	0.003	1:1
2009/2010 Permitted Projects to be implemented in 2011			
Corona Creek – reach scale sediment removal (Zone 2A)	0.52	0.52	1:1
Todd Creek- reach scale sediment removal	1.00	1.00	1:1
Washington 3 – reach scale sediment removal	0.10	0.10	1:1
Todd 4 – bank stabilization	0.01	0.01	1:1
Piner Creek Reservoir Inlet	n/a	n/a	Sed-Basin
Matanzas Creek Reservoir Inlet	n/a	n/a	Sed-Basin
Brush Creek Reservoir inlet	n/a	n/a	Sed-Basin
Santa Rosa (Spring) Creek Reservoir Inlet	n/a	n/a	Sed-Basin
Total	**9.48**	**9.48**	**1:1**
Off-Site Mitigation			
Off-Site Mitigation Projects new for 2011			
Cotati Creek Critters: 2011 Laguna 4		1.45	
Sotoyome RCD: 2011 Copeland Creek Phase I		3.6	
STRAW: 2011 Roseland Creek Phase I		0.16	
STRAW: 2011 San Giacomo Phase VII		1.14	
Southern Sonoma RCD: 2011 Lichau Creek (Zone 2A)		11.94	
New 2011 Offsite Mitigation Project(s) total		***18.29***	
Tier 1 Mitigation Ratio	9.48/9.48		**1:1**
Tier 2 & 3/Tier 1	18.29/9.48		**1:1.9**
2010 Carryover Mitigation	**1.42**		
Total Mitigation (Carryover (1.42)+18.29)	**19.71**		
Total Ratio of Mitigation to Impact			**2:1**
Tier 2 and 3 Mitigation Acres Remaining for Future Allocation	**9.28**		

** Sed-Basin means instream or focused sediment collection areas. Utilizing these areas frequently significantly reduces sediment loads downstream. The SMP treats reservoir inlets as instream focused sediment removal areas.

Section 5
Annual Sediment Disposal Plan

The 2010 annual sediment testing and disposal plan was developed in collaboration with the North Coast Regional Water Quality Control Board (Regional Board). The sediment testing requirements for the Stream Maintenance Program are defined in the Regional Board's Monitoring and Reporting Program (MRP) issued for the joint Order for 401 Certification and Waste Discharge Requirements (Order No. R1-2009-0049). At the request of SCWA and through discussions with the Regional Board, the testing requirements were refined in 2010 to better target pollutant sources.

This section provides an overview of the refined sediment testing plan and the proposed disposal sites for the 2010 maintenance projects. At this time (April 28, 2010), sediment test results are pending and will be provided to regulatory agencies, once lab results are received, anticipated in mid-May.

5A. Sediment Sampling and Testing

Approach and Methods

At the time the MRP was developed, little was known regarding the nature and extent of potential environmental pollutants in stream sediments within the SMP area. Thus, the MRP was developed with a conservative and comprehensive analyte list that includes Resource Conservation and Recovery Act (RCRA) priority pollutants and emerging pollutants of concern.

The 2009 maintenance year was the first year which the MRP sediment testing requirements were implemented. Sediment testing results from 2009 varied due to methodology consistency issues at the laboratory and using different sediment sampling protocols during collection. In addition to these issues, in 2009 the Regional Board was uncertain about which standards the sediment disposal site should be held to. As a result, the 2009 sediment disposal site was not approved for use in 2009, and the majority of 2009 sediment removal activities were not conducted.

In preparation for the 2010 maintenance season, SCWA met with the Regional Board on two occasions in early 2010 to review the MRP sampling requirements, and the required analyte

testing list in particular. Through discussions with Regional Board staff, the analyte list was refined to better detect sediment characteristics relevant to the SMP program area.

Based on guidance from the Regional Board, the analyte list was refined to consider watershed position, surrounding land use, sediment type (gravel, sand, clay content) on a site-by-site bases. This screening approach based on these watershed conditions improved the methodology for detecting anthopogenic contaminants (as opposed to naturally occurring contaminants). For example, maintenance sites located in or near industrial areas in the lower watershed would be tested for a wider range of potential contaminants; whereas, sites located in residential areas in the upper watershed would tested for a smaller range of potential contaminants. Refinements to the MRP are described further below and illustrated in Tables 5-1 and 5-2. Appendix A includes a copy of the memo prepared to document justification for the MRP revisions for 2010 sediment sampling and outlines a plan for future modification to the MRP based on results from the 2010 sampling events.

For 2010, sediment sampling techniques were standardized and improved compared to previous sediment sampling efforts. Additional time was spent to train the sampling crew in proper decontamination and handing of sampling equipment and on proper sampling techniques. All equipment that contacts sediment samples were decontaminated with Alconox soap (an anionic, residue-free detergent) and isopropyl alcohol, then thoroughly rinsed with deionized water. The sampling equipment was rewashed with Alconox soap and thoroughly rinsed with deionized water immediately prior to and between each sampling event (between sampling sites, but not between composite samples). Latex-free gloves were worn by the sampling crew at all times. Decontaminated equipment and the lab sample containers were transported to and from the decontamination area and the sampling site in a plastic bag to prevent contamination.

To ensure the quality of test results received this year would meet MRP reporting level requirements, SCWA contracted with Columbia Analytical Laboratories (CAS) in Kelso, Washington. This laboratory specializes in analysis of freshwater sediments and operates a specialized lab for low-level detection of dioxin.

Analytes Tested by Site

Table 5-1 includes the EPA test methods and reporting limits applied to the 2010 sediment samples. This list reflects the modifications made to the original 2009 MRP analyte list. The specific revisions made to the MRP analyte table are listed below and discussed in Appendix A.

- Total Metals – list reduced to the following 9 metals consistent with Method 6020A for arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc.
- Volatile Organic Compounds (VOCs) – Method 8260B (no change)
- Polycyclic Aromatic Hydrocarbons (PAHs) – Method 8270C (using more targeted subset within broad Method 8270C list)

- Polychlorinated biphenyls (PCBs) and Organochlorine Pesticides – Method 8082A instead of 8081 (no analysis for Kepone because it is not used in the U.S.)
- Organophosphorus Pesticides – Method 8270C instead of 8141A (no analysis for azinphos-ethyl, ethion, famphur, simazine, thionazin because these pesticides are not used in the U.S.)
- Dioxin/Furans – Method 8290 (lab that can properly meet the detection limits)
- Total Organic Carbon – added to better detect for anthropogenic hydrocarbons in conjunction with Method 8270C (PAHs) which substitutes for TPH testing.
- pH, fluoride, asbestos, nonylphenol – no change from MRP

Table 5-1: 2010 SMP Analyte List

Analyte and EPA Method[1]	Reporting Limit for Soil[2] (mg/kg)	Analyte and EPA Method[1] (cont.)	Reporting Limit for Soil[2] (mg/kg)
pH – Method 9045	pH Units		
Total Metals – Method 6020A			
Arsenic	0.086	Mercury (or 7470/7471- cold vapor)	0.05
Cadmium	0.12	Nickel	1.1
Chromium	0.66	Selenium	0.074
Copper	0.26	Zinc	2.4
Lead	1.1		
Polychlorinated biphenyls (PCBs) – Method 8082A			
8 - 2,4'-Dichlorobiphenyl	0.002	126 - 3,3',4,4',5-Pentachlorobiphenyl	0.002
18 - 2,2',5-Trichlorobiphenyl	0.002	128 - 2,2',3,3',4,4'-Hexachlorobiphenyl	0.002
28 - 2,4,4'-Trichlorobiphenyl	0.002	138 - 2,2',3,4,4',5'-Hexachlorobiphenyl	0.002
44 - 2,2',3,5'-Tetrachlorobiphenyl	0.002	153 - 2,2',4,4',5,5'-Hexachlorobiphenyl	0.002
52 - 2,2',5,5'-Tetrachlorobiphenyl	0.002	170 - 2,2',3,3',4,4',5-Heptachlorobiphenyl	0.002
66 - 2,3',4,4'-Tetrachlorobiphenyl	0.002	180 - 2,2',3,4,4',5,5'-Heptachlorobiphenyl	0.002
77 - 3,3',4,4'-Tetrachlorobiphenyl	0.002	187 - 2,2',3,4',5,5',6-Heptachlorobiphenyl	0.002
101 - 2,2',4,5,5'-Pentachlorobiphenyl	0.002	195 - 2,2',3,3',4,4',5,6-Octachlorobiphenyl	0.002
105 - 2,3,3',4,4'-Pentachlorobiphenyl	0.002	206 - 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	0.002
118 - 2,3',4,4',5-Pentachlorobiphenyl	0.002	209 - 2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	0.002
Volatile Organic Compounds (VOCs) – Method 8260B (MDL and MRLs may be elevated due to moisture content)			
Acetone	0.020	1,1-Dichloropropene	0.0050
Benzene	0.0050	cis-1,3-Dichloropropene	0.0050
Bromobenzene	0.0050	trans-1,3-Dichloropropene	0.0050
Bromochloromethane	0.0050	Ethylbenzene	0.0050

Table 5-1: 2010 SMP Analyte List

Analyte and EPA Method[1]	Reporting Limit for Soil[2] (mg/kg)	Analyte and EPA Method[1] (cont.)	Reporting Limit for Soil[2] (mg/kg)
Bromodichloromethane	0.0050	Hexachlorobutadiene	0.0050
Bromoform	0.0050	Isopropylbenzene	0.0050
Bromomethane	0.0050	p-Isopropyltoluene	0.0050
n-Butylbenzene	0.0050	Methyl ethyl ketone	0.015
sec-Butylbenzene	0.0050	Methyl isobutyl ketone	0.010
tert-Bertylbenzene	0.0050	Methyl tert-butyl ether (MTBE)	0.0050
Carbon tetrachloride	0.0050	Methylene chloride	0.0050
Chlorobenzene	0.0050	Naphthalene	0.0050
Chloroethane	0.0050	n-Propylbenzene	0.0050
Chloroform	0.0050	Styrene	0.0050
Chloromethane	0.0050	1,1,1,2-Tetrachloroethane	0.0050
2-Chlorotoluene	0.0050	1,1,2,2-Tetrachloroethane	0.0050
4-Chlorotoluene	0.0050	Tetrachloroethene	0.0050
Dibromochloromethane	0.0050	Toluene	0.0050
1,2-Dibromo-3-chloropropane	0.0050	1,2,3-Trichlorobenzene	0.0050
1,2-Dibromoethane	0.0050	1,2,4-Trichlorobenzene	0.0050
Dibromomethane	0.0050	1,1,1-Trichloroethane	0.0050
1,2-Dichlorobenzene	0.0050	1,1,2-Trichloroethane	0.0050
1,3-Dichlorobenzene	0.0050	Trichloroethene	0.0050
1,4-Dichlorobenzene	0.0050	Trichlorofluoromethane	0.0050
Dichlorodifluoromethane	0.0050	Trichlorotrifluoroethane	0.0050
1,1-Dichloroethane	0.0050	1,2,3-Trichloropropane	0.0050
1,2-Dichloroethane	0.0050	1,2,4-Trimethylbenzene	0.0050
1,1-Dichloroethene	0.0050	1,3,5-Trimethylbenzene	0.0050
cis-1,2-Dichloroethene	0.0050	Vinyl chloride	0.0050
trans-1,2-Dichloroethene	0.0050	m,p-Xylene	0.0050
1,2-Dichloropropane	0.0050	o-Xylene	0.0050
1,3-Dichloropropane	0.0050	Xylenes (total)	0.0050
Polycyclic Aromatic Hydrocarbons (PAHs) – Method 8270C			
Naphthalene	0.0050	C1-Fluoranthenes/Pyrenes	0.0050
C1-Naphthalenes	0.0050	C2-Fluoranthenes/Pyrenes	0.0050
C2-Naphthalenes	0.0050	C3-Fluoranthenes/Pyrenes	0.0050
C3-Naphthalenes	0.0050	C4-Fluoranthenes/Pyrenes	0.0050
C4-Naphthalenes	0.0050	Benz[a]anthracene	0.0050
Biphenyl	0.0050	Chrysene	0.0050
Acenaphthylene	0.0050	C1-Chrysenes	0.0050
Acenaphthene	0.0050	C2-Chrysenes	0.0050
Fluorene	0.0050	C3-Chrysenes	0.0050
C1-Fluorenes	0.0050	C4-Chrysenes	0.0050
C2-Fluorenes	0.0050	Benzo[b]fluoranthene	0.0050
C3-Fluorenes	0.0050	Benzo[k]fluoranthene	0.0050
Anthracene	0.0050	Benzo[e]pyrene	0.0050
Phenanthrene	0.0050	Benzo[a]pyrene	0.0050
C1-Phenanthrenes/Anthracenes	0.0050	Perylene	0.0050
C2-Phenanthrenes/Anthracenes	0.0050	Indeno[1,2,3-cd]pyrene	0.0050
C3-Phenanthrenes/Anthracenes	0.0050	Dibenz[a,h]anthracene	0.0050
C4-Phenanthrenes/Anthracenes	0.0050	Benzo[g,h,i]perylene	0.0050

Table 5-1: 2010 SMP Analyte List

Analyte and EPA Method[1]	Reporting Limit for Soil[2] (mg/kg)	Analyte and EPA Method[1] (cont.)	Reporting Limit for Soil[2] (mg/kg)
Fluoranthene	0.0050	Benz[a]anthracene	0.0050
Pyrene	0.0050		
Organochlorine pesticides – Method 8181A			
Aldrin	0.0050	Endosulfan I	0.0050
α-HCH (hexachlorocyclohexane)	0.0050	Endosulfan II	0.0050
β-HCH	0.0050	Endosulfan sulfate	0.0050
γ-HCH (Lindane)	0.0050	Endrin	0.0050
δ-HCH	0.0050	Endrin aldehyde	0.0050
Chlordane (tech)	0.20	Heptachlor	0.0050
4,4'-DDD	0.0050	Heptachlor epoxide	0.0050
4,4'-DDE	0.0050	Methoxychlor	0.0050
4,4'-DDT	0.0050	Mirex	0.10
Dieldrin	0.0050	Toxaphene	0.20
Organophosphorous pesticides – Method 8270C			
Azinphos-methyl	0.10	Fenthion	0.025
Bolstar (Sulprofos)	0.050	Malathion	0.025
Chlorpyrifos	0.025	Mevinphos	0.050
Coumaphos	0.10	Parathion, ethyl	0.025
Demeton-O	0.050	Parathion, methyl	0.025
Demeton-S	0.050	Phorate	0.025
Diazinon	0.025	Ronnel	0.050
Dichlorvos (DDVP)	0.050	Stirophos	0.025
Dimethoate	0.10	Tokuthion	0.050
Disulfoton	0.025	Trichloronate	0.0050
EPN	0.050		
Ethoprop	0.050		
Nonylphenol (GC/MS SIM) ASTM	0.2		
Asbestos	1% (PLM EPA Qualitative Method) 0.005 to 0.001 (TEM by EPA Quantitative Method)		
Fluoride – Method 340.2	1 mg/L in water		
Total organic carbon (TOC) – Method 9060 (%)	0.1		
Dioxins/Furans – Method 8290[3]	1.0 pg/g		

[1] The most recent version of EPA's Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", also known as SW-846, will be used with modification to achieve lower detection limits, and reduce potential laboratory contamination and sample matrix interferences.

[2] All laboratory analytical reports will include the detection and reporting limits, any flags, and a QA/QC report. All results will be reported as dry-weight concentrations. Electronic (PDF) submittals and Electronic Data Deliverables (EDD) as MS Excel are preferred.

[3] For dioxin/furans all congeners and their TEQs will be reported.

Approach for 2011 Sediment Sampling and Testing

For the 2011 season, sediment sampling and testing will be conducted according to the requirements of the MRP and as detailed in the Sediment Sampling and Analysis Guidelines in

Appendix B of the SMP Manual. Maintenance reaches, estimated quantities of sediment to be removed, the number of samples to be collected, suite of analytes to be tested are shown in Table 2 below. Notes to explain the sampling proposal are also provided. As indicated in the table, the "full suite" of analytes includes those listed in Table 3 of the amended MRP. The "subset" list of analytes includes metals listed in Table 3, total organic carbon, and total solids.

Table 5-2: Proposed Sediment Sampling Plan for 2011

Maintenance Reach and Type Number (see SMP Manual for reach locations)	**Estimated Amount of Sediment to be Removed (cubic yards)**	**Number and Group of Analytes to be Tested (full suite or subset)**	**Comments**
Reach Scale			
Laguna de Santa Rosa 1	12,000	None Needed	The project site is isolated from surrounding urban inputs of potential contaminants. Maintenance on this reach is part of a three-part project to maintain sediment within the entire reach. This site is immediately adjacent to and upstream of the maintenance area which was sampled in 2010. The adjacent and upstream portion of Laguna 1 will be sampled in 2012 to evaluate the influence of an adjacent dairy farm and runoff from Stony Point Road.
Santa Rosa Creek 2	5,000	2- Full suite 1- Subset	The full suite samples will be collected from the upper and lower most sections of the reach. The subset sample will be collected mid-reach.
Colgan Creek 6	1,500	2- Full suite (closest to roads or industrial land uses) 1- Subset	Site is located in an industrial area and this reach has not been sampled previously.
Todd Channel 3, 4	2,300	1- Full suite in Todd 3 only	Todd 3 is located close to an old clean-up site (Friedman's hardware store) Todd 4 was sampled in 2010 but the project was not conducted; results showed low levels of contaminants
Coleman 2 (Snyder to Cook Creek)	700	1- Full suite 1- Subset	No history of sampling. Full suite at downstream end.

Austin Creek 3	800	1- Full suite 1- Subset	No history of sampling. Full suite at downstream end.
Gossage 1 (downstream from Lowell)	3,000	2 – Full suite 1 - Subset	No history of sampling. Full suites at upper and lower-most ends of reach. Subset sample in the middle.

Localized

Windsor Creek (Reach 1) at culverts downstream of Windsor Rd	200	1- Subset	Composite sample representing total amount to be removed.
Laguna de Santa Rosa (Reaches4/5) downstream of East Cotati	400	1- Subset	Composite sample representing total amount to be removed.
Bloomfield Creek (concrete portion near Stormy's)	200	1- Subset	Composite sample representing total amount to be removed.

Sediment Basin/Instream Basin Clearing

Five Creek at Snyder Lane	No sampling for 5 years	Annual site. Sampled in 2010
Wilfred Channel at Snyder Lane	No sampling for 5 years	Annual site. Sampled in 2009
Copeland Creek at Snyder Lane and Country Club Drive	1- Subset	No history of sampling.
Cook Creek Sediment Basin	1- Subset	No history of sampling.

Looking north from southeast corner of Grossi property to area where sediment will be placed for sorting and reuse (3/24/2010)

This site has the potential capacity to receive the entirety of sediment excavated from the 2011 maintenance sites. Sediment excavated from the Rohnert Park and Cotati areas would be taken to Grossi's property to reduce transportation costs. SMP sediment would not be used for agricultural purposes, such as growing feed grasses or reuse as potting soils. The sediment will be reused as fill material only.

- **Dairy Bedding**
  SCWA has received inquiries from several local dairies in the Stony Point Rd vicinity about the use of SMP sediment for use as bedding material. Any agreement with local dairies would require that material be placed in preapproved locations upon evaluation by SCWA staff and could not be used as fill in wetlands or sensitive areas. SCWA will discuss this option further with Water Board staff.

Appendix A

California Department of Fish and Game Application Materials

- DFG Notification of Lake or Streambed Alteration;
- Annual Notification Checklist For DFG MLSAA;
- Copy of Check for Annual Master Agreement Fee
- CD with 2011 Annual Notification

FOR DEPARTMENT USE ONLY				
Date Received	*Amount Received*	*Amount Due*	*Date Complete*	*Notification No.*
	$	$		

STATE OF CALIFORNIA

DEPARTMENT OF FISH AND GAME

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

Complete EACH field, unless otherwise indicated, following the enclosed instructions and submit ALL required enclosures. Attach additional pages, if necessary.

1. APPLICANT PROPOSING PROJECT

Name	Grant Davis		
Business/Agency	Sonoma County Water Agency		
Street Address	404 Aviation Boulevard		
City, State, Zip	Santa Rosa, CA 94506		
Telephone	547-1900	Fax	(707) 524-3782
Email	grant.davis@scwa.ca.gov		

2. CONTACT PERSON (*Complete only if different from applicant*)

Name	Keenan Foster		
Street Address	404 Aviation Boulevard		
City, State, Zip	Santa Rosa, CA 94506		
Telephone	(707) 547-1941	Fax	(707) 524-3782
Email	kfoster@scwa.ca.gov		

3. PROPERTY OWNER (*Complete only if different from applicant*)

Name			
Street Address			
City, State, Zip			
Telephone		Fax	
Email			

4. PROJECT NAME AND AGREEMENT TERM

A. Project Name	Stream Maintenance Program			
B. Agreement Term Requested	☐ Regular (*5 years or less*) ☑ Long-term (*greater than 5 years)*			
C. Project Term		D. Seasonal Work Period		E. Number of Work Days
Beginning (*year*)	Ending (*year*)	Start Date (*month/day*)	End Date (*month/day*)	
2011	2011	06/15	10/31	

5. AGREEMENT TYPE

Check the applicable box. If box B, C, D, or E is checked, complete the specified attachment.	
A.	☐ Standard *(Most construction projects, excluding the categories listed below)*
B.	☐ Gravel/Sand/Rock Extraction (*Attachment A*) *Mine I.D. Number:* _____
C.	☐ Timber Harvesting (*Attachment B*) THP *Number:* _____
D.	☐ Water Diversion/Extraction/Impoundment (*Attachment C*) *SWRCB Number:* _____
E.	☐ Routine Maintenance (*Attachment D*)
F.	☐ DFG Fisheries Restoration Grant Program (FRGP) *FRGP Contract Number:* _____
G.	☑ Master
H.	☐ Master Timber Harvesting

6. FEES

Please see the current fee schedule to determine the appropriate notification fee. Itemize each project's estimated cost and corresponding fee. ***Note: The Department may not process this notification until the correct fee has been received.***

	A. Project	B. Project Cost	C. Project Fee
1	Annual Fee		$2,801.50
2	(annual project fees paid with annual report after project complete)		
3			
4			
5			
		D. Base Fee *(if applicable)*	
		E. TOTAL FEE ENCLOSED	$2,801.50

7. PRIOR NOTIFICATION OR ORDER

A. Has a notification previously been submitted to, or a Lake or Streambed Alteration Agreement previously been issued by, the Department for the project described in this notification?

☑ Yes (*Provide the information below*) ☐ No

Applicant: Sonoma County Water Agency Notification Number: 1600-2009-0399-R3 Date: 04/28/11

B. Is this notification being submitted in response to an order, notice, or other directive ("order") by a court or administrative agency (including the Department)?

☑ No ☐ Yes (*Enclose a copy of the order, notice, or other directive. If the directive is not in writing, identify the person who directed the applicant to submit this notification and the agency he or she represents, and describe the circumstances relating to the order.*)

☐ *Continued on additional page(s)*

8. PROJECT LOCATION

A. Address or description of project location.

(*Include a map that marks the location of the project with a reference to the nearest city or town, and provide driving directions from a major road or highway*)

This application covers all the projects listed in the SMP's Annual Notification (attached). All of these projects should be appropriate under the Master Streambed Alteration Agreement # 1600-2009-0399-R3.

☑ *Continued on additional page(s)*

B. River, stream, or lake affected by the project.	
C. What water body is the river, stream, or lake tributary to?	
D. Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?	☐ Yes ☑ No ☐ Unknown
E. County	

F. USGS 7.5 Minute Quad Map Name	G. Township	H. Range	I. Section	J. ¼ Section

☐ *Continued on additional page(s)*

K. Meridian (*check one*) ☐ Humboldt ☑ Mt. Diablo ☐ San Bernardino

L. Assessor's Parcel Number(s)

Multiple, please see the SMP Annual Notification (attached) for project locations and conditions.

☐ *Continued on additional page(s)*

M. Coordinates (*If available, provide at least latitude/longitude or UTM coordinates and check appropriate boxes)*

Latitude/Longitude	*Latitude:* see Notification (attached)	*Longitude:* see Notification (attached)	
	☐ Degrees/Minutes/Seconds	☐ Decimal Degrees	☐ Decimal Minutes
UTM	*Easting:*	*Northing:*	☐ Zone 10 ☐ Zone 11
Datum used for Latitude/Longitude or UTM	☐ NAD 27	☑ NAD 83 or WGS 84	

9. PROJECT CATEGORY AND WORK TYPE *(Check each box that applies)*

PROJECT CATEGORY	NEW CONSTRUCTION	REPLACE EXISTING STRUCTURE	REPAIR/MAINTAIN EXISTING STRUCTURE
Bank stabilization – bioengineering/recontouring	☐	☐	☑
Bank stabilization – rip-rap/retaining wall/gabion	☐	☐	☑
Boat dock/pier	☐	☐	☐
Boat ramp	☐	☐	☐
Bridge	☐	☐	☐
Channel clearing/vegetation management	☐	☐	☐
Culvert	☐	☑	☑
Debris basin	☐	☐	☑
Dam	☐	☐	☑
Diversion structure – weir or pump intake	☐	☐	☐
Filling of wetland, river, stream, or lake	☐	☐	☐
Geotechnical survey	☐	☐	☐
Habitat enhancement – revegetation/mitigation	☑	☐	☑
Levee	☐	☐	☐
Low water crossing	☐	☑	☐
Road/trail	☐	☐	☑
Sediment removal – pond, stream, or marina	☐	☐	☑
Storm drain outfall structure	☐	☐	☑
Temporary stream crossing	☐	☐	☑
Utility crossing : Horizontal Directional Drilling	☐	☐	☐
Jack/bore	☐	☐	☐
Open trench	☐	☐	☐
Other *(specify)*:	☐	☐	☐

10. PROJECT DESCRIPTION

A. Describe the project in detail. Photographs of the project location and immediate surrounding area should be included.

- Include any structures (e.g., rip-rap, culverts, or channel clearing) that will be placed, built, or completed in or near the stream, river, or lake.
- Specify the type and volume of materials that will be used.
- If water will be diverted or drafted, specify the purpose or use.

Enclose diagrams, drawings, plans, and/or maps that provide all of the following: site specific construction details; the dimensions of each structure and/or extent of each activity in the bed, channel, bank or floodplain; an overview of the entire project area (i.e., "bird's-eye view") showing the location of each structure and/or activity, significant area features, and where the equipment/machinery will enter and exit the project area.

This application covers all the projects listed in the SMP's Annual Notification (attached). All of these projects should be appropriate under the Master Streambed Alteration Agreement # 1600-2009-0399-R3. The Annual Notification contains all pertinent information for each 2011 project.

☑ *Continued on additional page(s)*

B. Specify the equipment and machinery that will be used to complete the project.

This application covers all the projects listed in the SMP's Annual Notification (attached). All of these projects should be appropriate under the Master Streambed Alteration Agreement # 1600-2009-0399-R3. The Annual Notification contains all pertinent information for each 2011 project.

☑ *Continued on additional page(s)*

C. Will water be present during the proposed work period (specified in box 4.D) in the stream, river, or lake (specified in box 8.B).	☐ Yes ☐ No (*Skip to box 11*)
D. Will the proposed project require work in the wetted portion of the channel?	☑ Yes (*Enclose a plan to divert water around work site*) ☐ No

11. PROJECT IMPACTS

A. Describe impacts to the bed, channel, and bank of the river, stream, or lake, and the associated riparian habitat. Specify the dimensions of the modifications in length (linear feet) and area (square feet or acres) and the type and volume of material (cubic yards) that will be moved, displaced, or otherwise disturbed, if applicable.

This application covers all the projects listed in the SMP's Annual Notification (attached). All of these projects should be appropriate under the Master Streambed Alteration Agreement # 1600-2009-0399-R3. The Annual Notification contains all pertinent information for each 2011 project.

☑ *Continued on additional page(s)*

B. Will the project affect any vegetation? ☐ Yes (*Complete the tables below*) ☐ No

Vegetation Type	Temporary Impact	Permanent Impact
	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____
	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____

Tree Species	Number of Trees to be Removed	Trunk Diameter (range)

☑ *Continued on additional page(s)*

C. Are any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site?

☑ Yes *(List each species and/or describe the habitat below)* ☐ No ☐ Unknown

Details are included in the Annual Notification (attached)

☑ *Continued on additional page(s)*

D. Identify the source(s) of information that supports a "yes" or "no" answer above in Box 11.C.

CNDDB, Survey data, SCWA biologists (David Cook, Keenan Foster, Shawn Chase), Agency Reports, and routine maintenance evaluations.

☐ *Continued on additional page(s)*

E. Has a biological study been completed for the project site?

☑ Yes (*Enclose the biological study*) ☐ No

Note: A biological assessment or study may be required to evaluate potential project impacts on biological resources.

F. Has a hydrological study been completed for the project or project site?

☑ Yes (*Enclose the hydrological study*) ☐ No

Note: A hydrological study or other information on site hydraulics (e.g., flows, channel characteristics, and/or flood recurrence intervals) may be required to evaluate potential project impacts on hydrology.

12. MEASURES TO PROTECT FISH, WILDIFE, AND PLANT RESOURCES

A. Describe the techniques that will be used to prevent sediment from entering watercourses during and after construction.

This application covers all the projects listed in the SMP's Annual Notification (attached). All of these projects should be appropriate under the Master Streambed Alteration Agreement # 1600-2009-0399-R3. The Annual Notification contains all pertinent information for each 2011 project. All projects will follow the terms and conditions of the Master Agreement and BMPs defined in the SMP Manual.

☑ *Continued on additional page(s)*

B. Describe project avoidance and/or minimization measures to protect fish, wildlife, and plant resources.

This application covers all the projects listed in the SMP's Annual Notification (attached). All of these projects should be appropriate under the Master Streambed Alteration Agreement # 1600-2009-0399-R3. The Annual Notification contains all pertinent information for each 2011 project. All projects will follow the terms and conditions of the Master Agreement and BMPs defined in the SMP Manual.

☑ *Continued on additional page(s)*

C. Describe any project mitigation and/or compensation measures to protect fish, wildlife, and plant resources.

The mitigation program for the SMP is defined in the SMP Manual and in the Master Agreement. All projects will follow the terms and conditions of the Master Agreement and BMPs defined in the SMP Manual. The Annual Notification describes the mitigation plan for each project.

☑ *Continued on additional page(s)*

13. PERMITS

List any local, state, and federal permits required for the project and check the corresponding box(es). Enclose a copy of each permit that has been issued.

A. RWQCB Programmatic 401 (North Coast and SF Bay) ☐ Applied ☐ Issued

B. USACE Individual Permit ☐ Applied ☐ Issued

C. BOs from FWS and NMFS (Russian River and Zones 2A, 3A) ☐ Applied ☐ Issued

D. Unknown whether ☐ local, ☐ state, or ☐ federal permit is needed for the project. (*Check each box that applies*)

☐ *Continued on additional page(s)*

14. ENVIRONMENTAL REVIEW

A. Has a draft or final document been prepared for the project pursuant to the California Environmental Quality Act (CEQA), National Environmental Protection Act (NEPA), California Endangered Species Act (CESA) and/or federal Endangered Species Act (ESA)?

☑ Yes (*Check the box for each CEQA, NEPA, CESA, and ESA document that has been prepared and enclose a copy of each*)

☐ No (*Check the box for each CEQA, NEPA, CESA, and ESA document listed below that will be or is being prepared*)

☐ Notice of Exemption	☐ Mitigated Negative Declaration	☐ NEPA document (*type*):
☐ Initial Study	☐ Environmental Impact Report	☑ CESA document (*type*): CD
☐ Negative Declaration	☐ Notice of Determination *(Enclose)*	☑ ESA document (*type*): BOs
☐ THP/ NTMP	☐ Mitigation, Monitoring, Reporting Plan	

B. State Clearinghouse Number (*if applicable*)	2005-082131		
C. Has a CEQA lead agency been determined?	☑ Yes (*Complete boxes D, E, and F*)	☐ No (*Skip to box 14.G*)	
D. CEQA Lead Agency	Sonoma County Water Agency		
E. Contact Person	Keenan Foster	F. Telephone Number	(707) 547-1941

G. If the project described in this notification is part of a larger project or plan, briefly describe that larger project or plan.

This application covers all the projects listed in the SMP's Annual Notification (attached). All of these projects should be appropriate under the Master Streambed Alteration Agreement # 1600-2009-0399-R3. The SMP's guiding document is the SMP Manual prepared in coordination with all the regulating agencies.

☐ *Continued on additional page(s)*

H. Has an environmental filing fee (Fish and Game Code section 711.4) been paid?

☑ Yes (*Enclose proof of payment*) ☐ No (*Briefly explain below the reason a filing fee has not been paid)*

Note: If a filing fee is required, the Department may not finalize a Lake or Streambed Alteration Agreement until the filing fee is paid.

15. SITE INSPECTION

Check one box only.

☐ In the event the Department determines that a site inspection is necessary, I hereby authorize a Department representative to enter the property where the project described in this notification will take place at any reasonable time, and hereby certify that I am authorized to grant the Department such entry.

☑ I request the Department to first contact (*insert name*) Keenan Foster at (*insert telephone number*) (707) 547-1941 to schedule a date and time to enter the property where the project described in this notification will take place. I understand that this may delay the Department's determination as to whether a Lake or Streambed Alteration Agreement is required and/or the Department's issuance of a draft agreement pursuant to this notification.

16. DIGITAL FORMAT

Is any of the information included as part of the notification available in digital format (i.e., CD, DVD, etc.)?

☑ Yes (Please enclose the information via digital media with the completed notification form)

☐ No

17. SIGNATURE

I hereby certify that to the best of my knowledge the information in this notification is true and correct and that I am authorized to sign this notification as, or on behalf of, the applicant. I understand that if any information in this notification is found to be untrue or incorrect, the Department may suspend processing this notification or suspend or revoke any draft or final Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand also that if any information in this notification is found to be untrue or incorrect and the project described in this notification has already begun, I and/or the applicant may be subject to civil or criminal prosecution. I understand that this notification applies only to the project(s) described herein and that I and/or the applicant may be subject to civil or criminal prosecution for undertaking any project not described herein unless the Department has been separately notified of that project in accordance with Fish and Game Code section 1602 or 1611.

Signature of Applicant or Applicant's Authorized Representative

APR 29 2011

Date

Grant Davis

Print Name

Sonoma County Water Agency's Stream Maintenance Program

Annual Notification Checklist For DFG Master LSAA

Included	Component
☑	Check for Annual Master Agreement Fee
☑	Completed Notification for Lake and Streambed Alteration Agreement Form • Check Item 5.G. Master • Check "Yes" and specify 1600-2009-0399-3 under Item 7.A.
☑	Copy of this Checklist
☑	Annual Workplan Notification Packet
☑	• Cover Letter
☑	• Project List and Locations o Project Site Name o Creek o Tributary to o SMP Reach name and number o United States Geological Survey (USGS) Quad, Township, Range, Section o plan view maps of project showing all areas where activity may occur, including areas traveled by equipment or used for storage of equipment or materials and known locations of sensitive species and sensitive habitats. o Latitude and Longitude o Permit Applicability o Deviations from SMP Manual activity descriptions and BMPs o Pre-construction sensitive species survey information, identification of pre-project surveys, results of prior surveys, submitted CNDDB report forms[1]
☑	• Summary of Sediment Removal and Bank Stabilization Activities
☑	• Project Designs and Setting for Sediment Removal Projects o Channel characterization sheets[2] o Maps identifying location of planned maintenance work in relation to known sensitive species/habitat zones o Results of on-site biological surveys including presence of special-status plants[1] o Identification of other biological surveys that will be conducted during the maintenance year o Longitudinal Profiles

☑ ☑ ☑	o Plan Views o Channel Cross Sections o Sediment Sampling Locations • Annual Mitigation Plan o On-Site o Off-Site • Annual Sediment Disposal Plan • Permits and Fees
☑	Status of on-site program mitigation from prior year projects. Should include status of riparian planting and reveg reports from preceding five years.[3]

Table notes:

1. Pre-construction surveys (i.e. nesting birds, etc) are generally conducted 1-2 weeks prior to commencing work and associated reporting. The Annual Notification materials include a schedule and timeline for all pre-construction surveys.). As such, we propose submitting the pre-construction survey data and evidence of appropriate BMP implementation with the Annual Report versus the Annual Notification.
2. Channel Characterization sheets are incorporated into the SMP Manual. New Channel Characterization Sheets are included in the Annual Notification only if there are changes or revisions.
3. The Annual Report provides a thorough accounting of the status of Tiers 1-3 on and off site mitigation programs for a period of 5 years. The Annual Report is generally submitted in December or January of each year. For the Annual Notification, we have provided a status summary on 2009 Tier 1 mitigation.

THIS CHECK IS VOID WITHOUT A GREEN & BLUE BORDER AND BACKGROUND PLUS A KNIGHT & FINGERPRINT WATERMARK ON THE BACK - HOLD AT ANGLE TO VIEW

TO THE TREASURER OF THE
COUNTY OF SONOMA
SANTA ROSA, CALIFORNIA

CLAIMS WARRANT
REVOLVING FUND 10-052-000

WARRANT NO.
1196166

11-35
1210

DATE 04/22/2011
VOID AFTER SIX MONTHS

PAY THIS AMOUNT
*****$2,801.50

PAY *Two thousand eight hundred one and 50/100 Dollars*

To The Order Of
CA ST DEPT-FISH & GAME
P O BOX 944209
SACRAMENTO CA 94244-2090

RODNEY A. DOLE
AUDITOR-CONTROLLER

SIGNATURE AREA CONTAINS A KNIGHT & FINGERPRINT CHECK WORDING
U.S. PATENTS 5538290, 5575508, 5641183, 5785353, 5984364, 6030000

⑈0011196166⑈ ⑆121000358⑆ 00439⑉80050⑈

ABSENCE OF PINK U.S. PATENT NUMBERS UNDER SIGNATURE INDICATES CHECK IS FRAUDULENT. PATENT NUMBERS ARE PRINTED WITH HEAT SENSITIVE INK & WILL DISAPPEAR WHEN BLOWING OR RUBBING

TO THE TREASURER OF THE
COUNTY OF SONOMA
SANTA ROSA, CALIFORNIA

VENDOR NO. 004889 05 DATE PAID 04/22/2011 201 01196166 No. 1196166

VOUCHER NUMBER	P.O. NUMBER	DESCRIPTION	AMOUNT
CP1129000 01		NOTIFICATION NO. 1600-2009-0399-R3	2,801.50
			$2,801.50

REORDER D908 • U.S. PATENT NO. 5538290, 5575508, 5641183, 5785353, 5984364, 6030000

Appendix B

Sediment Disposal Memorandum To North Coast Regional Water Quality Control Board

Memorandum

Subject: **Sediment Sampling and Disposal Notification for the Sonoma County Water Agency's Stream Maintenance Program**

March 31, 2011

To: Mark Neely, North Coast Regional Water Quality Control Board (NCRWQCB)
Stephen Bargsten (NCRWQCB)

From: Ken Schwarz, Horizon Water and Environment
Jill Sunahara, Horizon Water and Environment

CC. Jon Niehaus, Sonoma County Water Agency (SCWA)

This is the proposed sediment sampling and disposal plan for the SCWA's 2011 Stream Maintenance Program (SMP) maintenance sites for review and approval by the NCRWQCB (or Regional Board), as required under the Monitoring and Reporting Program (MRP No. R1-2009-0049), as part of WDR No. R1-2009-0049 and Section 401 Water Quality Certification WDID No. 1B09026WNSO, as amended on July 29, 2010.

This plan has been revised according to direction received during a meeting with Regional Board staff on March 30, 2011.

1. Summary of SMP sampling efforts to date

Regulatory approval of the SMP by the NCRWQCB was provided in July 2009. The 2009 maintenance season was relatively light with only six maintenance sites. SCWA conducted sediment sampling at each of the six maintenance sites and at the sediment reuse site (at the Grossi site).

The sediment sampling approach was refined for the 2010 maintenance season. Fourteen maintenance sites were sampled and the Grossi site was sampled again.

Table 1, below lists the sites and analytes tested in 2009 and 2010.

Table 1: SMP Sediment Sampling Tracking Table (2009 and 2010 Seasons)

Creek Name & Reach	SMP Project Type	Volume of Sediment Removed (cy)*	Watershed Position (Headwater, Upper, Middle, Lower)	Number of Samples Taken	Sediment Analytes									
					Total Metals	pH	Total Organic Carbon	Semivolatile Organics – PAH extended list (EPA 8270D or C Modified)	VOCs (8260B)	Dioxin (EPA 8290)	Organochlorine Pesticide and PCB Congeners (EPA 8081B/8082A)	Organophosphorus Pesticides (EPA 8141B or 8270D)	Asbestos, Fluoride, Nonylphenol	TPH (8015)
Sediment Disposal Sites														
Grossi Site			Middle											
2009	--	--		5	X				X					X
2010	--	--		2	X	X	X	X	X	X	X	X	X	
Zone 1 A														
Windsor Creek Subbasin														
Starr Creek 1			Middle											
2009	Localized* *	215		1	X	X	X	X	X	X	X	X	X	X
2010	Localized	215		1	X	X	X	X	X		X	X	X	
Santa Rosa Creek Subbasin														
College Creek 3			Middle											
2010	Bank Stabilization	--		1	X	X	X	X	X		X	X	X	
Ducker Creek 2			Middle											
2010	Localized	56		1	X	X	X	X	X	X	X	X	X	
Lorna Dell Creek 1			Upper											
2010	Reach	1,260		1	X	X	X	X	X		X	X	X	
Paulin Creek 2-4, 6			Middle											
2010	Localized	805		1	X	X	X	X	X		X	X	X	
Peterson Creek 2			Lower											
2010	Bank Stabilization	--		1	X	X	X	X		X	X	X	X	

Table 1: SMP Sediment Sampling Tracking Table (2009 and 2010 Seasons)

Creek Name & Reach	SMP Project Type	Volume of Sediment Removed (cy)*	Watershed Position (Headwater, Upper, Middle, Lower)	Number of Samples Taken	Sediment Analytes									
					Total Metals	pH	Total Organic Carbon	Semivolatile Organics – PAH extended list (EPA 8270D or C Modified)	VOCs (8260B)	Dioxin (EPA 8290)	Organochlorine Pesticide and PCB Congeners (EPA 8081B/8082A)	Organophosphorus Pesticides (EPA 8141B or 8270D)	Asbestos, Fluoride, Nonylphenol	TPH (8015)
Russell Creek 1			Middle											
2010	Localized	74		1	X	X	X	X	X		X	X	X	
Santa Rosa Creek 1			Lower											
2010	Bank Stabilization	--		1	X	X	X	X		X	X	X	X	
Roseland and Colgan Subbasin														
Kawana Creek 1 / Colgan Creek 7			Middle											
2009	Reach **	1,059		3	X	X		X	X		X	X		X
2010	Reach	1,059		2	X	X	X	X	X	X	X	X	X	
Colgan Creek 5			Middle											
2009	Localized**	200		1	X	X	X	X	X	X	X	X	X	X
2010	Localized	200		1	X	X	X	X	X	X	X	X	X	
Upper Laguna Subbasin														
Cotati Creek 1			Middle											
2009	Reach	416		1	X	X		X	X		X	X		X
Crane Creek 1/ Five Creek 1			Upper											
2009	Reach**	5,213		5	X	X		X	X		X	X		X
2010	Reach	5,213		5	X	X	X	X	X	X	X	X	X	
Hinebaugh Creek 5			Middle											
2010	Localized	78		1	X	X	X	X	X		X	X	X	

Table 1: SMP Sediment Sampling Tracking Table (2009 and 2010 Seasons)

Creek Name & Reach	SMP Project Type	Volume of Sediment Removed (cy)*	Watershed Position (Headwater, Upper, Middle, Lower)	Number of Samples Taken	Sediment Analytes									
					Total Metals	pH	Total Organic Carbon	Semivolatile Organics – PAH extended list (EPA 8270D or C Modified)	VOCs (8260B)	Dioxin (EPA 8290)	Organochlorine Pesticide and PCB Congeners (EPA 8081B/8082A)	Organophosphorus Pesticides (EPA 8141B or 8270D)	Asbestos, Fluoride, Nonylphenol	TPH (8015)
Laguna de Santa Rosa 1			Lower											
2010	Reach	14,485		5	X	X	X	X		X	X	X	X	
Todd Creek 4			Middle											
2010	Localized**	325		1	X	X	X	X	X	X	X	X	X	
Wilfred Creek 1			Upper											
2009	Intermediate	3,250		4	X	X		X	X		X	X		X

* Note that the Annual SMP Reports should be referenced for the most accurate accounting of the volume of sediment removed that year.

** Sediment sample collected and analyzed but maintenance activity not conducted in that year

2. Approach for 2011 Sediment Sampling and Testing

For the 2011 season, sediment sampling and testing will be conducted according to the requirements of the MRP and as detailed in the Sediment Sampling and Analysis Guidelines in Appendix B of the SMP Manual.

Maintenance reaches, estimated quantities of sediment to be removed, the number of samples to be collected, suite of analytes to be tested are shown in Table 2 below. Notes to explain the sampling proposal are also provided.

As indicated in the table, the "full suite" of analytes includes those listed in Table 3 of the amended MRP. The "subset" list of analytes includes metals listed in Table 3, total organic carbon, and total solids.

Table 2: Proposed Sediment Sampling Plan for 2011

Maintenance Reach and Type Number (see SMP Manual for reach locations)	**Estimated Amount of Sediment to be Removed (cubic yards)**	**Number and Group of Analytes to be Tested (full suite or subset)**	**Comments**
Reach Scale			
Laguna de Santa Rosa 1	12,000	None Needed	The project site is isolated from surrounding urban inputs of potential contaminants. Maintenance on this reach is part of a three-part project to maintain sediment within the entire reach. This site is immediately adjacent to and upstream of the maintenance area which was sampled in 2010. The adjacent and upstream portion of Laguna 1 will be sampled in 2012 to evaluate the influence of an adjacent dairy farm and runoff from Stony Point Road.
Santa Rosa Creek 2	5,000	2- Full suite 1- Subset	The full suite samples will be collected from the upper and lower most sections of the reach. The subset sample will be collected mid-reach.
Colgan Creek 6	1,500	2- Full suite (closest to roads or industrial land uses)	Site is located in an industrial area and this reach has not been sampled previously.

		1- Subset	
Todd Channel 3, 4	2,300	1- Full suite in Todd 3 only	Todd 3 is located close to an old clean-up site (Friedman's hardware store) Todd 4 was sampled in 2010 but the project was not conducted; results showed low levels of contaminants
Coleman 2 (Snyder to Cook Creek)	700	1- Full suite 1- Subset	No history of sampling. Full suite at downstream end.
Austin Creek 3	800	1- Full suite 1- Subset	No history of sampling. Full suite at downstream end.
Gossage 1 (downstream from Lowell)	3,000	2 – Full suite 1 - Subset	No history of sampling. Full suites at upper and lower-most ends of reach. Subset sample in the middle.

Localized

Windsor Creek (Reach 1) at culverts downstream of Windsor Rd	200	1- Subset	Composite sample representing total amount to be removed.
Laguna de Santa Rosa (Reaches4/5) downstream of East Cotati	400	1- Subset	Composite sample representing total amount to be removed.
Bloomfield Creek (concrete portion near Stormy's)	200	1- Subset	Composite sample representing total amount to be removed.

Sediment Basin/Instream Basin Clearing

Five Creek at Snyder Lane	No sampling for 5 years	Annual site. Sampled in 2010
Wilfred Channel at Snyder Lane	No sampling for 5 years	Annual site. Sampled in 2009
Copeland Creek at Snyder Lane and Country Club Drive	1- Subset	No history of sampling.
Cook Creek Sediment Basin	1- Subset	No history of sampling.

3. Sediment Disposal and Reuse Plan for 2011

The following sites are proposed for sediment disposal and reuse. These are the same sites as used for the 2010 maintenance season.

- **Grab N' Grow**
  Grab N' Grow Products processes and sells soil products for farmers, gardeners, and landscapers. The company is located at 2759 Llano Road in Santa Rosa. The facility recycles over 80,000 cubic yards of organic materials including green waste (tree trimmings and landscaping waste) and agricultural waste each year. Grab N' Grow produces soil mixes, compost, and groundcover materials.

  This facility has the potential capacity to receive the entirety of the sediment removed as part of 2011 maintenance activities. Grab N' Grow is primarily interested in material that can be used to augment other materials for use as fill. SCWA and Grab N' Grow have a written agreement for soil disposal.

- **Wheeler Zamaroni**
  Wheeler Zamaroni is a local company that sells landscape and building materials, and custom fabricated stone. The company operates at a 30-acre facility located at 3500 Petaluma Hill Road in south Santa Rosa. SCWA has an agreement with this company. A copy of the finalized agreement was provided to the Regional Board as part of the 2010 Notification process.

  No SMP sediments would be resold as soil products, such as for gardening or soil amendments, due to the potential for redistribution of anthropogenic bioaccumulative materials present in the stream sediments. Wheeler Zamaroni is primarily interested in material that they can sort into sand and gravels for reuse.

- **Grossi Site**
  Mr. Ed Grossi's property is located at 6652 Petaluma Hill Road in Rohnert Park. On this property, Mr. Grossi operates a landscaping nursery and grows feed grains for dairy cattle. He also maintains an open area to process soil material for potting and resale. Mr. Grossi has an existing agreement with SCWA to accept sediment from stream channels in the SMP area. As approved by the Regional Board's Executive Officer, the Grossi property has received and reused sediment from stream maintenance activities for the past two years. The memorandum of agreement between Mr. Grossi and SCWA was previously submitted to the regulatory agencies and does not expire until 2023.

  This site has the potential capacity to receive the entirety of sediment excavated from the 2011 maintenance sites. Sediment excavated from the Rohnert Park and Cotati areas would be taken to Grossi's property to reduce transportation costs. SMP sediment would not be used for agricultural purposes, such as growing feed grasses or reuse as potting soils. The sediment will be reused as fill material only.

- **Dairy Bedding**
  SCWA has received inquiries from several local dairies in the Stony Point Rd vicinity about the use of SMP sediment for use as bedding material. Any agreement with local dairies would require that material be placed in preapproved locations upon evaluation by SCWA staff and could not be used as fill in wetlands or sensitive areas. SCWA will discuss this option further with Water Board staff.

Appendix C

WPP Project Descriptions

Watershed Partnership Program Project Funding Application

APPLICATION INFORMATION

Applicant/Lead Organization Address
The Bay Institute
695 De Long Avenue, Suite 100
Novato, CA 94945
(415) 878-2929
www.bay.org

Contact Name and Title: Sheryl Barbic, Institutional Advancement Manager

Telephone: (415) 878-2929, 35

Email Address: barbic@bay.org

Signature and Date

12/10/10

List of Other Participating Organizations
The project team consists of the following organizations: Sonoma County Water Agency (landowner), Prunuske Chatham, Inc., and Shepherd Elementary School.

PROJECT INFORMATION

Project Name: STRAW: Roseland Creek Education and Restoration Project

Project Location: Roseland Creek, Santa Rosa

Total Project Budget: $117,280 over five years, with match

Available Matching Funds
STRAW will contribute an in-kind match in the form of volunteer hours totaling $6,640. Restoration activities will engage three classes of students from Shepherd Elementary School in Santa Rosa (3 teachers, 75 students, 5 community volunteers = 83 volunteers x 4 hours = 332 hours x $20/hr = $6.640).

Total Requested through WPP
The project budget is as follows: Restoration for 3 years: Year 1: $31,901; Year 2: $32,788; Year 3: $32,670. The overall total request for 3 years of restoration with 5 years of monitoring: $97,360.

Proposal Narrative

Project Description and Benefits

The Bay Institute's (TBI's) Students and Teachers Restoring a Watershed (STRAW) Project is engaged in riparian restoration of Roseland Creek. Roseland Creek is a tributary to the Laguna de Santa Rosa, the largest sub-watershed of the Russian River. This is a multi-phase project along the reach between Stony Point Road and Corporate Center Parkway in Santa Rosa. The project site is downstream of the proposed Restoration Reach in the City Council-adopted Citywide Creek Master Plan, and builds upon STRAW's prior efforts at the project site. This project will continue the improvement in riparian habitat and water temperature control proposed in the Master Plan, as well as meet or exceed the habitat goals for Roseland Creek of the Sonoma County Water Agency. This project will also minimize future impacts to the creek due to flood control maintenance, as a healthy, functioning riparian forest allows for much less invasive and frequent channel treatments. The site currently has sparse overstory vegetation, and a non-functioning understory, consisting of primarily the non-native Himalayan blackberry (*Rubus discolor*).

This project has multiple goals. The combination of blackberry and other flood control vegetation removal, canopy development, and understory and riparian enhancement will, over time, help alleviate the maintenance needs and minimize channel disturbance. These practices will substantially increase the habitat quality of this section of Roseland Creek as well. In addition, this project will engage students from schools serving underserved communities in Sonoma County in the active enhancement of their community watershed and will build on two years of previous work completed by the STRAW Project with funding from SCWA and California Coastal Conservancy. This site was selected because of its proximity to the Sonoma County Water Agency's proposed stream maintenance sites for 2011, to the schools who have participated in this project in the past, and to its connection to planned restoration work by the city of Santa Rosa. Once that project is completed, the resulting habitat corridor will be substantial.

Students will participate in professionally-designed habitat restoration planned by Prunuske Chatham, Inc. (PCI), an environmental engineering firm that specializes in ecological restoration, hydrology, revegetation, and erosion control. PCI designs professional quality habitat restorations for students to conduct.

We propose a three-year project to be conducted in phases, with each phase expanding the project towards the southward bend on Fresno Avenue. Each phase will include continued removal of sporadic populations of the non-native Himalayan blackberry (*Rubus discolor*) as well as additional planting of native trees and shrubs that have been selected from studies of reference reaches within Roseland Creek and the Laguna de Santa Rosa watershed. In addition, native sedges and rushes will be installed to minimize any potential complications with vegetation maintenance and will help armor

the exposed floodplains once the Himalayan blackberry is removed. Phase I will be completed in the 2011-2012 school year, phase II will be completed in the 2012-2013 school year, and phase III will be completed in the 2013-2014 school year.

The following services will be provided by TBI's STRAW project and PCI in the design and implementation of the project:

EDUCATION

Services provided by TBI:

- Teachers participating in planting days will have the opportunity to participate in our annual Watershed Week, a three-day professional development workshop that focuses on the many aspects of watershed science. This event's central theme changes annually based on input from our teacher network and partners.
- Teachers participating in planting days will have the opportunity to participate in two network events throughout the school year, which focus on timely environmental topics that are generated from feedback from our teacher network.
- Students will receive a pre-planting presentation about their project, including watershed and restoration science, as well as site specific training and details.
- Classes will receive any additional in-class and/or field activities as requested by their teacher to supplement their traditional class curriculum. Examples of topics include macroinvertebrates, water quality, ornithology, geology, and mapping. STRAW staff, STRAW Faculty, and partners teach these topics as appropriate.
- Classes will have the opportunity to participate in our annual virtual Summit, which allows them to share their work with the greater North Bay community.

DESIGN AND IMPLEMENTATION:

Services provided by TBI:

- Staff to prepare site for student planting days.
- Staff to procure all materials for the project.
- Accompany PCI designer at site for layout, pin-flagging, and identification of hazards.
- Mark hazards.
- Implement final design with student and community volunteers after SCWA, PCI, and landowner approval.
- Oversee the distribution of students, adult volunteers, and supervisors throughout the work site to ensure project quality and success.
- Note the number and type of plantings installed at each site, as well as the length of riparian corridor covered by the restoration.
- Provide reports as needed to SCWA.

Services provided by PCI:

- Locate the project site in the field.
- Develop a species list and planting plan.
- Prepare planting and maintenance specifications.
- Lay out planting locations in the field.
- Work with TBI staff as needed to insure planting success.

How does this project advance goals for the Water Agency's Stream Maintenance Program and pertain to the 2011 planned maintenance work?

The Roseland Creek project helps advance the goals for SCWA's Stream Maintenance Program by addressing many of the maintenance challenges present in this reach. The project will reduce invasive species from the flood corridor and improve stream function for flood protection by removing Himalayan Blackberry (*Rubus discolor*). Due to its proximity to culverts, it is a persistent maintenance challenge if it is allowed to regrow after treatment. In addition, this species provide poor sediment retention due to its shallow root structures and is a component of poor quality habitat. The installation of appropriate natives will create a mature riparian canopy that will provide long-term bank stability and shade-out many of the persistent non-natives that require frequent maintenance for flood control. These practices will also enhance both understory and overall riparian habitat quality along the channel. This project pertains to 2011 planned maintenance work through the reach scale work planned for the Laguna de Santa Rosa in zone 1A.

Location. Right of Way Access.

The landowner property of the project site on Roseland Creek is the Sonoma County Water Agency. SCWA has provided right of way access for restoration, monitoring, and maintenance activities for the past three years.

Project Partners.

The project team consists of the following organizations: Sonoma County Water Agency (landowner), Prunuske Chatham, Inc., and Shepherd Elementary School. Community involvement is addressed by bringing teachers and their students on to the property to conduct restoration activities.

Project Schedule, including implementation, maintenance, and monitoring.

STRAW uses the following annual timeline for restoration, monitoring, and maintenance activities. Project activities will be conducted annually for three years. The overall project will be conducted in three phases, completing one cycle per year. Maintenance of project sites will continue for two additional years, for a total of five cycles.

Month(s)	Activities
July/August	Site reconnaissance/restoration planning and design Teacher professional development at Watershed Week

	Begin scheduling classes for restoration sites
September/October	Finalize restoration planning and design Finalize scheduling classes for restoration sites Conduct in-class presentations for restoration Conduct fall teacher professional development seminar
November-March	Restoration implementation Conduct spring teacher professional development seminar
April-October	On-going maintenance of project site
October	Monitoring conducted

Project Permitting.
No permitting is required for revegetation efforts.

Length and area and number of species of plants installed

Minimum Project Dimensions (per phase): 350ft x 20ft = 7000ft^2

Minimum Number of Species Installed (per phase): 60

Trees, shrubs and grasses will be installed that have been selected from studies of reference reaches within Roseland Creek and the Laguna de Santa Rosa watershed under the guidance of PCI staff.

Maintenance and Monitoring.
Plants are maintained and monitored for a five-year establishment period, and monitoring data facilitate the project team in adaptively managing project sites by identifying site specific variables that contribute to plant mortality. Maintenance and monitoring activities per phase will include:

- Regularly inspect plantings from late spring through early fall for five years – as often as once per week, but no less that once per month for the first year, and once per month for the following four years.
- Maintain plantings by weeding, inspecting/replacing Driwater gel packs, and repairing browse protectors, and spraying of deer repellent if required.
- Procure Driwater gel packs (approximately 1080) sufficient to install 2 packs per plant at installation and 3 times each year for two years, and at least 2 times in year 3-5
- Monitor gel packs for replacement, typically in March/April, June/July and late August/September.
- Monitor plant survival by species in October to inform future planting designs.

- Perform annual photomonitoring using the State Water Resources Control Board's Standard Operating Procedure 5.2.3.
- Coordinate additional monitoring activities with PRBO Conservation Science and UC Cooperative Extension staff if additional funding is available.

Plant Survival
Plant establishment work begins in Spring 2012. Should survival of container plants fall below 80% by the end of the first year after installation of each phase, TBI will replace dead plants to bring the totals up to 90% or more of the originally installed plants. However, TBI is not responsible for damages due to vandals, fire, livestock, flooding, erosion or other disasters out of TBI's control.

Budget. Please see the attached project budget.

Supporting documents.
- Project map
- Site photographs
- Letters of commitment from participating partners:
    1. Prunuske Chatham, Inc.

PRUNUSKE CHATHAM, INC.

December 8, 2010

Grant Davis
Sonoma County Water Agency
404 Aviation Blvd.
Santa Rosa, CA 94503

Dear Grant:

I am writing in support of The Bay Institute's Students and Teachers Restoring a Watershed Project. As you know, Prunuske Chatham, Inc. (PCI) has worked with STRAW since its inception over 18 years ago. We design riparian and wetland restoration for teachers and their students to implement under the direction and supervision of STRAW staff.

This letter is specifically to support STRAW's work at the Roseland Creek, Copeland Creek, Palin Creek, Matanzas Creek and East Washington Creek restoration sites. PCI has worked with STRAW on SCWA sites for over ten years. We are committed to continuing that partnership to revitalize the ecosystem function of Sonoma County's creeks while providing opportunities for students to care for and connect with their bigger home.

Sincerely,

Liza Prunuske
Principal

400 MORRIS STREET, SUITE G · SEBASTOPOL CA 95472 · 707 824-4600 · FAX 707 824-6854

City of
Santa Rosa

December 9, 2010

Grant Davis
Sonoma County Water Agency
404 Aviation Blvd.
Santa Rosa, CA 94503

Dear Mr. Davis:

The City of Santa Rosa and the Creek Stewardship Program gladly offer their support to The Bay Institute's Students and Teachers Restoring a Watershed (STRAW) Project for continuing their excellent creek education and restoration activities with youth in Santa Rosa.

The Creek Stewardship Program operates under a Joint Funding Agreement between the City and Sonoma County Water Agency with a primary goal of encouraging community support in the care of the 90 miles of creeks that flow through the urban area. A key to building community involvement is educating youth who not only readily retain the knowledge gained but also transfer it to their peers and families.

The City has partnered with STRAW since 2004 and would very much like to see their impressive program continued at the current restoration sites on Matanzas, Paulin, and Roseland Creeks as well as on any other creeks within the City that STRAW can accommodate.

Specific support for STRAW will be provided in the form of staff time to assist in project development and on restoration work days. The City is also willing to provide delivery and hauling off of materials and help with maintenance and monitoring.

STRAW's efforts are particularly valuable because they make youth aware that urban creeks near their school or in their neighborhood do have environmental value and that young people, working together can make a huge and lasting difference. The City of Santa Rosa strongly encourages the Sonoma County Water Agency to support STRAW as much as possible to continue this fantastic program.

Please contact me at (707) 543-3845 or ableifuss@srcity.org if you have any questions.

Sincerely,

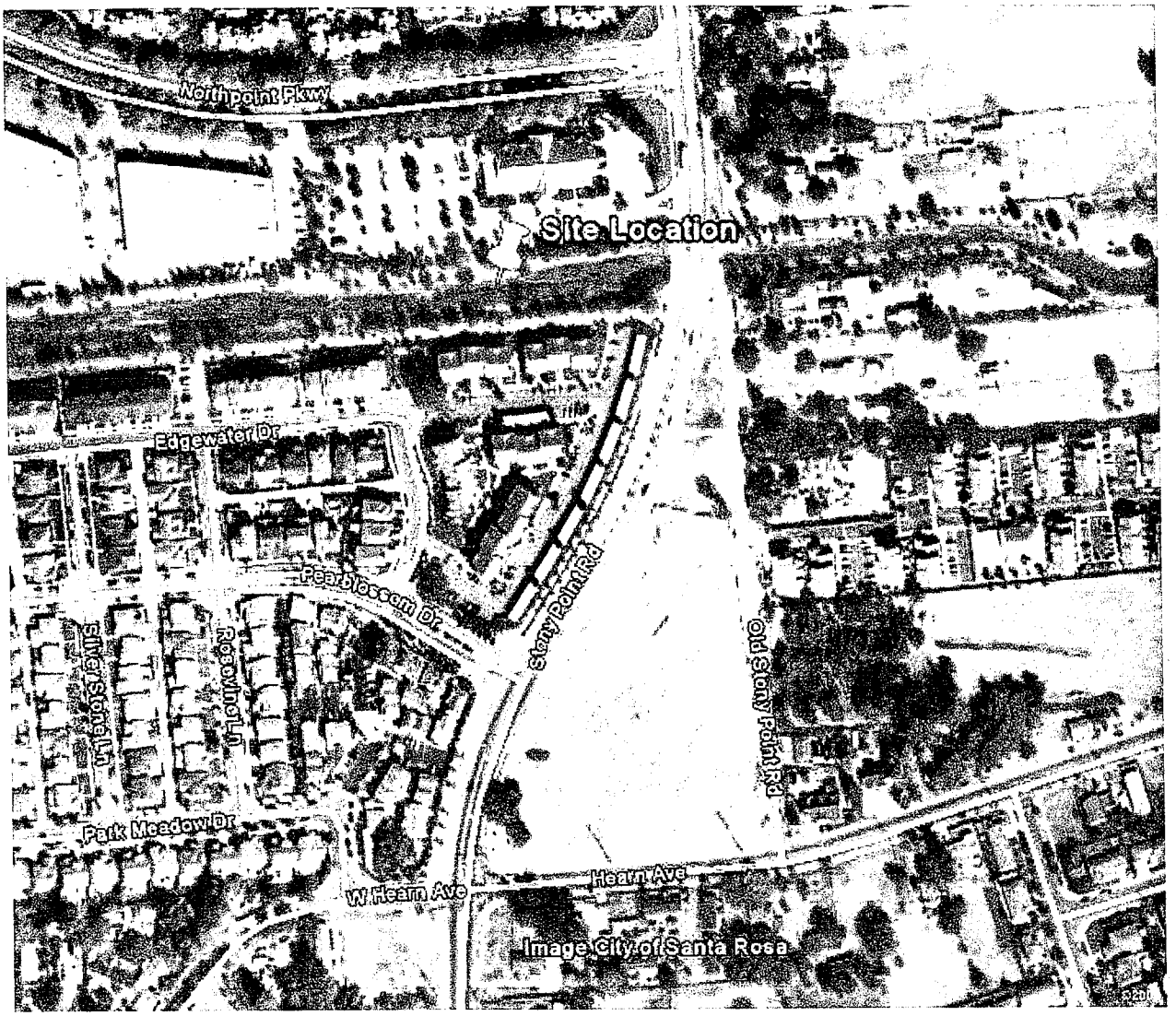
Alistair Bleifuss

Alistair Bleifuss
Environmental Specialist

L:\Creek Stewardship\Partners\STRAW\2010 City of Santa Rosa letter of support for STRAW.doc

UTILITIES DEPARTMENT
69 Stony Circle • Santa Rosa, CA 95401
Phone: (707) 543-4200 • Fax: (707) 543-3936

Roseland Creek



Photos

IRS Department of the Treasury
Internal Revenue Service
P.O. Box 2508
Cincinnati OH 45201

AUG 25 2008

In reply refer to: 0248455888
Aug. 21, 2008 LTR 4168C E0
94-2717001 000000 00 000
00023749
BODC: TE

BAY INSTITUTE OF SAN FRANCISCO
695 DE LONG AVE STE 100
NOVATO CA 94945-3350251

023790

Employer Identification Number: 94-2717001
Person to Contact: SELLERS
Toll Free Telephone Number: 1-877-829-5500

Dear TAXPAYER:

This is in response to your request of Aug. 12, 2008, regarding your tax-exempt status.

Our records indicate that a determination letter was issued in AUGUST 1981, that recognized you as exempt from Federal income tax, and discloses that you are currently exempt under section 501(c)(3) of the Internal Revenue Code.

Our records also indicate you are not a private foundation within the meaning of section 509(a) of the Code because you are described in section(s) 509(a)(1) and 170(b)(1)(A)(vi).

Donors may deduct contributions to you as provided in section 170 of the Code. Bequests, legacies, devises, transfers, or gifts to you or for your use are deductible for Federal estate and gift tax purposes if they meet the applicable provisions of sections 2055, 2106, and 2522 of the Code.

If you have any questions, please call us at the telephone number shown in the heading of this letter.

Sincerely yours,

Michele M. Sullivan

Michele M. Sullivan, Oper. Mgr.
Accounts Management Operations I

Roslenad Creek Budget			2011-12 Restoration Site						
The Bay Institute					2011-12	2012-13	2013-14	2014-15	2015-16
Students & Teachers Restoring a Watershed (STRAW)			2011-12	2011-12	Summer	Summer	Summer	Summer	Summer
60 Container Plants			Aug-May	Nov-Feb	2012	2013	2014	2015	2016
		Total	Volunteer & Teacher Trainings, Classroom Support	Planning/ Restoration	Evaluation/Establishment/Reporting Yr 1	Evaluation/Establishment/Reporting Yr 2	Evaluation/Establishment/Reporting Yr 3	Evaluation/Establishment/Reporting Yr4	Evaluation/Establishment/Reporting Yr 5
HOURS									
Program Director		22	2	8	2	2	2	2	2
Restoration Manager		48	2	24	6	6	6	6	6
Restoration Assistant Manager		48	4	18	8	8	8	8	8
Watershed Education Coordinators (3)		94	6	28	24	16	16	8	8
Project Manager/Finance		8		4	1	1	2	2	2
Total		220	14	82	41	33	34	34	26
DOLLARS									
Program Director	105.00	2,100	210	840	210	210	210	210	210
Restoration Manager	85.00	4,760	170	2,040	510	510	510	510	510
Restoration Assistant Manager	75.00	4,650	300	1,350	600	600	600	600	600
Watershed Education Coordinators (3)	75.00	8,550	450	2,100	1,800	1,200	1,200	1,200	600
Project Manager/Finance	75.00	900	0	300	75	75	150	150	150
Total		20,960	1,130	6,630	3,195	2,595	2,670	2,670	2,070
EE Benefits	24.0%	5,030	271	1,591	767	623	641	641	497
Subtotal STRAW labor		25,990	1,401	8,221	3,962	3,218	3,311	3,311	2,567
PCI		2,000		1,500	500				
Faculty, Ed Consultants		400	400						
Ttl Tech cons		2,400	400	1,500	500	0	0	0	0
Plants, Materials ($10 each)		600		600					
Driwater ($32.60 life of each plant)		1,956		489	489	489	489		
Storage, toilet		165		80	85				
Mileage/Vehicle Expense		100	25	50	25				
Teacher Network costs (4 teachers 4.6%)		690	690						
GRAND TOTAL		31,901	2,516	10,940	5,061	3,707	4,534	4,534	2,567
MATCH									
Teachers(3), Students (75) , Volunteers (5) @ 4 hrs @ $20/hour		6,640		6,640					

PROJECT TOTAL		38,541	2,516	17,580	5,061	3,707	4,534	4,524	2,567

Appendix C

Roslenad Creek Budget	2012-13 Restoration Site							
The Bay Institute				2012-13	2013-14	2014-15	2015-16	2016-17
Students & Teachers Restoring a Watershe		2012-13	2012-13	Summer	Summer	Summer	Summer	Summer
60 Container Plants		Aug-May	Nov-Feb	2013	2014	2015	2016	2017
	Total	Volunteer & Teacher Trainings, Classroom Support	Planning/ Restoration	Evaluation/Establishment/Reporting Yr 1	Evaluation/Establishment/Reporting Yr 2	valuation/Establishment/Reportin Yr 3	valuation/Establishment/Reporting Yr 4	Evaluation/Establishment/Reporting Yr 5
Program Director	22	2	8	2	2	2	2	2
Restoration Manager	48	2	28	6	6	6	6	6
Restoration Assistant Manager	48	4	20	8	8	8	8	8
Watershed Education Coordinators (3)	94	6	32	24	16	16	8	8
Project Manager/Finance	8		4	1	1	2	2	2
Total	**220**	**14**	**92**	**41**	**33**	**34**	**34**	**26**
Program Director	2,100	210	840	210	210	210	210	210
Restoration Manager	5,100	170	2,380	510	510	510	510	510
Restoration Assistant Manager	4,800	300	1,500	600	600	600	600	600
Watershed Education Coordinators (3)	8,850	450	2,400	1,800	1,200	1,200	1,200	600
Project Manager/Finance	825	0	300	75	75	75	150	150
Total	21,675	1,130	7,420	3,195	2,595	2,595	2,670	2,070
EE Benefits	5,202	271	1,781	767	623	623	641	497
Subtotal STRAW labor	**26,877**	**1,401**	**9,201**	**3,962**	**3,218**	**3,218**	**3,311**	**2,567**
PCI	2,000		1,500	500				
Faculty, Ed Consultants	400	400						
Ttl Tech cons	**2,400**	**400**	**1,500**	**500**	**0**	**0**	**0**	**0**
Plants, Materials ($10 each)	600		600					
Driwater ($32.60 life of each plant)	1,956		489	489	489	489		
Storage, toilet	165		80	85				
Mileage/Vehicle Expense	100	25	50	25				
Teacher Network costs (4 teachers 4.6%)	690	690						
GRAND TOTAL	**32,788**	**2,516**	**11,920**	**5,061**	**3,707**	**4,534**	**4,534**	**2,567**
MATCH								
Teachers(3), Students (75) , Volunteers (5) @ 4 hrs @ $20/hour	6,640		6,640					

PROJECT TOTAL	39,428		2,516	18,560	5,061	3,707			2,567

Roslenad Creek Budget	2013-14 Restoration Site							
The Bay Institute				2013-14	2014-2015	2015-16	2016-17	2017-18
Students & Teachers Restoring a Watershe		2013-14	2013-14	Summer	Summer	Summer	Summer	Summer
60 Container Plants		Aug-May	Nov-Feb	2014	2015	2016	2017	2018
	Total	Volunteer & Teacher Trainings, Classroom Support	Planning/ Restoration	Evaluation/Establishment/Reporting Yr 1	Evaluation/Establishment/Reporting Yr 2	Evaluation/Establishment/Reporting Yr 3	Evaluation/Establishment/Reporting Yr 4	Evaluation/Establishment/Reportin5 Yr 5
Program Director	22	2	8	2	2	2	2	2
Restoration Manager	48	2	28	6	6	6	4	4
Restoration Assistant Manager	48	4	20	8	8	8	8	8
Watershed Education Coordinators (3)	94	6	32	24	16	16	8	8
Project Manager/Finance	8		4	1	1	2	2	2
Total	**220**	**14**	**92**	**41**	**33**	**34**	**34**	**24**
Program Director	2,100	210	840	210	210	210	210	210
Restoration Manager	4,930	170	2,380	510	510	510	510	340
Restoration Assistant Manager	4,800	300	1,500	600	600	600	600	600
Watershed Education Coordinators (3)	8,850	450	2,400	1,800	1,200	1,200	1,200	600
Project Manager/Finance	900	0	300	75	75	150	150	150
Total	21,580	1,130	7,420	3,195	2,595	2,670	2,670	1,900
EE Benefits	5,179	271	1,781	767	623	641	641	456
Subtotal STRAW labor	**26,759**	**1,401**	**9,201**	**3,962**	**3,218**	**3,311**	**3,311**	**2,356**
PCI	2,000		1,500	500				
Faculty, Ed Consultants	400	400						
Ttl Tech cons	**2,400**	**400**	**1,500**	**500**	**0**	**0**	**0**	**0**
Plants, Materials ($10 each)	600		600					
Driwater ($32.60 life of each plant)	1,956		489	489	489	489	1,223	1,223
Storage, toilet	165		80	85				
Mileage/Vehicle Expense	100	25	50	25				
Teacher Network costs (4 teachers 4.6%)	690	690						
GRAND TOTAL	**32,670**	**2,516**	**11,920**	**5,061**	**3,707**	**4,534**	**4,534**	**3,579**
MATCH								
Teachers(3), Students (75) , Volunteers (5) @ 4 hrs @ $20/hour	6,640		6,640					

PROJECT TOTAL	39,310	2,516	18,560	5,061	3,707	4,534	4,534	3,579	

Roslenad Creek Budget	Overall: Life of 5 Year Matanzas Creek Project -3 Sites							
The Bay Institute								
Students & Teachers Restoring a Watershe								
60 Container Plants								
	Total	Volunteer & Teacher Trainings, Classroom Support	Planning/ Restoration	Evaluation/Establishment/Reporting Yr 1	Evaluation/Establishment/Reporting Yr 2	Evaluation/Establishment/Reporting Yr 3	Evaluation/Establishment/Reporting Yr 4	Evaluation/Establishment/Reporting Yr 5
Program Director	66	6	24	6	6	6	6	6
Restoration Manager	144	6	80	18	18	18	4	4
Restoration Assistant Manager	144	12	58	24	24	24	24	24
Watershed Education Coordinators (3)	282	18	92	72	48	48	48	24
Project Manager/Finance	24	0	12	3	3	8	6	6
Total	**660**	**42**	**266**	**123**	**99**	**102**	**102**	**64**
Program Director	6,300	630	2,520	630	630	630	630	630
Restoration Manager	14,790	510	6,800	1,530	1,530	1,530	1,530	1,360
Restoration Assistant Manager	14,250	900	4,350	1,800	1,800	1,800	1,800	1,800
Watershed Education Coordinators (3)	26,250	1,350	6,900	5,400	3,600	3,600	3,600	1,800
Project Manager/Finance	2,625	0	900	225	225	450	450	450
Total	64,215	3,390	21,470	9,585	7,785	8,010	8,010	6,040
EE Benefits	15,412	814	5,153	2,300	1,868	1,922	1,922	1,450
Subtotal STRAW labor	**79,627**	**4,204**	**26,623**	**11,885**	**9,653**	**9,932**	**9,932**	**7,490**
PCI	6,000	0	4,500	1,500	0	0	0	0
Faculty, Ed Consultants	1,200	1,200	0	0	0	0	0	0
Ttl Tech cons	**7,200**	**1,200**	**4,500**	**1,500**	**0**	**0**	**0**	**0**
Plants, Materials ($10 each)	1,800	0	1,800	0	0	0	0	0
Driwater ($32.60 life of each plant)	5,868	0	1,467	1,467	1,467	3,669	3,669	1,223
Storage, toilet	495	0	240	255	0	0	0	0
Mileage/Vehicle Expense	300	75	150	75	0	0	0	0
Teacher Network costs (4 teachers 4.6%)	2,070	2,070	0	0	0	0	0	0
GRAND TOTAL	**97,360**	**7,549**	**34,780**	**15,182**	**11,120**	**13,601**	**13,601**	**8,713**
MATCH								
Teachers(3), Students (75) , Volunteers (5) @ 4 hrs @ $20/hour	19,920	0	19,920	0	0	0	0	0

PROJECT TOTAL	117,280	7,549	54,700	15,182	11,120	13,601	13,601	8,713	

Watershed Partnership Program Project Funding Application

APPLICATION INFORMATION

Applicant/Lead Organization Address
The Bay Institute
695 De Long Avenue, Suite 100
Novato, CA 94945
(415) 878-2929
www.bay.org

Contact Name and Title: Sheryl Barbic, Institutional Advancement Manager

Telephone: (415) 878-2929, 35

Email Address: barbic@bay.org

Signature and Date

Sheryl Barbic 12/10/10

List of Other Participating Organizations
The project team consists of the following organizations: City of Santa Rosa, Prunuske Chatham, Inc., Hidden Valley Elementary School.

PROJECT INFORMATION

Project Name: STRAW: Paulin Creek Restoration Project at Hidden Valley Park

Project Location: Paulin Creek

Project Budget: $141,939 over five years, with match

Available Matching Funds
STRAW will contribute an in-kind match in the form of volunteer hours totaling $10,000. Restoration activities will engage four 5th grade classes of students from Hidden Valley Elementary School (4 teachers, 100 students, 21 community volunteers = 125 volunteers x 4 hours = 500 hours x $20/hr = $10,000).

Total Requested through WPP
The project budget is as follows: Restoration for 3 years: Year 1: $38,177; Year 2: $37,084; Year 3: $36,677. The overall total project budget for 3 years of restoration with 5 years of monitoring: $111,939.

Proposal Narrative

Project Description and Benefits

The Bay Institute's (TBI's) Students and Teachers Restoring A Watershed (STRAW) Project proposes to work with students, teachers, and community volunteers on professionally-designed riparian habitat restorations at Paulin Creek in Hidden Valley Park. Paulin Creek is a tributary to Piner Creek, Santa Rosa Creek and the Laguna de Santa Rosa, the largest sub-watershed of the Russian River. This is a multi-phase project along the reach within Hidden Valley Park. The site currently has healthy, heritage overstory vegetation, and a non-functioning understory, consisting of dense populations of non-native plants such as Himalayan Blackberry (*Rubus armeniacus*), English Ivy (*Hedera helix*), Fennel (*Foeniculum vulgare*), and Periwinkle (*Vinca major*).

This project will accomplish two primary goals. One is to enhance the non-functioning understory described above by the removal of these non-native invasive plants and the installation of native shrubs and grasses. The other is to engage students from the neighboring school in the active enhancement of their community watershed. This site was selected because of its proximity to the Sonoma County Water Agency's proposed stream maintenance sites for 2011 as a tributary to Piner Creek and to Hidden Valley Elementary School, which is a high performing school with highly involved parents and dedicated teachers. The trails, paths and bridges located within the park are used everyday by several students on their way to and from school and various community members. One bridge has become overgrown with Himalayan Blackberry and will be uncovered by the students' removal efforts. This project is in a highly-visible public location and allows for the work of all parties involved to be showcased to the Hidden Valley community as well as the greater Santa Rosa community.

Students will participate in professionally-designed habitat restoration planned by Prunuske Chatham, Inc. (PCI), an environmental engineering firm that specializes in ecological restoration, hydrology, revegetation, and erosion control. PCI designs professional quality habitat restorations for students to conduct.

We propose a three-year project to be conducted in phases, with each phase expanding the project area around the park. Each phase will include continued removal of populations of the non-native Himalayan Blackberry (*Rubus armeniacus*), English Ivy (*Hedera helix*), Fennel (*Foeniculum vulgare*), and Periwinkle (*Vinca major*) along approximately 150 linear feet of creek bank. Approximately 125 native shrubs and grasses will be installed that will be selected from studies of reference reaches within Paulin and Piner Creeks and the Laguna de Santa Rosa watershed under the guidance of PCI staff. Phase I will be completed in the 2011-2012 school year, phase II will be completed in the 2012-2013 school year, and phase III will be completed in the 2013-2014 school year.

The following services will be provided per phase by TBI's STRAW Project and PCI in the design and implementation of the project:

EDUCATION

Services provided by TBI:

- Teachers participating in this planting day will have the opportunity to participate in our annual Watershed Week, a three-day professional development workshop that focuses on the many aspects of watershed science. This event's central theme changes annually based on input from our teacher network and partners.
- Teachers participating in this planting day will have the opportunity to participate in two network events throughout the school year, which focus on timely environmental topics that are generated from feedback from our teacher network.
- Students will receive a pre-planting presentation about their project, including watershed and restoration science, as well as site specific training and details.
- Classes will receive any additional in-class and/or field activities as requested by their teacher to supplement their traditional class curriculum. Examples of topics include macroinvertebrates, water quality, ornithology, geology, and mapping. STRAW staff, STRAW Faculty, and partners teach these topics as appropriate.
- Classes will have the opportunity to participate in our annual Summit, which allows them to share their work with the greater North Bay community.

DESIGN AND IMPLEMENTATION:

Services provided by TBI:

- Staff to prepare site for student planting days.
- Staff to procure all materials for the project.
- Accompany PCI designer at site for layout, pin-flagging, and identification of hazards.
- Mark hazards.
- Implement final design after SCWA, PCI, and landowner approval with student and community volunteers.
- Oversee the distribution of students, adult volunteers, and supervisors throughout the work site to ensure project quality and success.
- Note the number and type of plantings installed at each site, as well as the length of riparian corridor covered by the restoration.
- Provide reports as needed to the funder.

Services provided by PCI

- Locate the project site in the field.
- Develop a species list and planting plan.
- Prepare planting and maintenance specifications.
- Lay out planting locations in the field.
- Work with TBI staff as needed to insure planting success.

How does this project advance goals for the Water Agency's Stream Maintenance Program and pertain to the 2011 planned maintenance work?
The Hidden Valley Park Paulin Creek project helps advance the goals for SCWA's Stream Maintenance Program in a variety of ways. The project will reduce invasive species from the flood corridor and improves stream function for flood protection by removing non- native Himalayan Blackberry (*Rubus armeniacus*), English Ivy (*Hedera helix*), Fennel (*Foeniculum vulgare*), and Periwinkle (*Vinca major*). These species provide poor sediment retention due to their shallow root structures and are components of poor quality habitat. The installation of appropriate natives will enhance both understory and overall riparian habitat quality. This project pertains to 2011 planned maintenance work both through the reach scale work planned for the Laguna de Santa Rosa in zone 1A as well as work at Piner Reservoir.

Location. Right of Way Access.
The project site on Paulin Creek is located in Hidden Valley Park. The landowner of the property is the City of Santa Rosa. The City will provide access for restoration, maintnenace, and monitoring to the STRAW Project.

Project Partners.
Project partners include: the City of Santa Rosa (landowner), Prunuske Chatham, Inc., and Hidden Valley Elementary School. Community involvement is addressed by bringing teachers and their students on to the property to conduct restoration and related environmental education activities.

Project Schedule, including implementation, maintenance, and monitoring.
STRAW uses the following annual timeline for restoration, monitoring, and maintenance activities:

Month(s)	Activities
July/August	Site reconnaissance/restoration planning and design Teacher professional development at Watershed Week Begin scheduling classes to restoration sites
September/October	Finalize restoration planning and design Finalize scheduling classes to restoration sites Conduct in-class presentations for restoration Conduct fall teacher professional development seminar
November-March	Restoration implementation Conduct spring teacher professional development seminar
April-October	On-going maintenance of project site
October	Monitoring conducted

Project Permitting.
No permitting is required for revegetation efforts.

Length and area and number of species of plants installed.

Minimum Project Dimensions (per phase):
150ft x 25ft = 3750ft^2

Minimum Number of Species Installed (per phase):
125

Native shrubs and grasses will be installed that are selected from studies of reference reaches within Paulin and Piner Creeks and the Laguna de Santa Rosa watershed under the guidance of PCI staff.

Maintenance and Monitoring.
Plants are maintained and monitored for a five-year establishment period, and monitoring data facilitate the project team in adaptively managing project sites by identifying site specific variables that contribute to plant mortality. Maintenance and monitoring activities per phase will include:

- Regularly inspect plantings from late spring through early fall for five years – as often as once per week, but no less that once per month for the first year, and once per month for the following four years.
- Maintain plantings at a minimum by weeding, inspecting/replacing Driwater gel packs, and repairing browse protectors, and spraying of deer repellent if required.
- Procure Driwater gel packs (approx. 2070 per phase) sufficient to install 2 packs per shrub and 1 pack per 2 grasses at installation and 3 times each year for two years, at least 2 times in year 3, and additional maintenance and replacement of Driwater gel packs will be completed as needed for the remaining two years of monitoring.
- Monitor gel packs for replacement, typically in March/April, June/July and late August/September.
- Monitor plant survival by species in October to inform future planting designs.
- Perform annual photomonitoring using the State Water Resources Control Board's SOP 5.2.3.

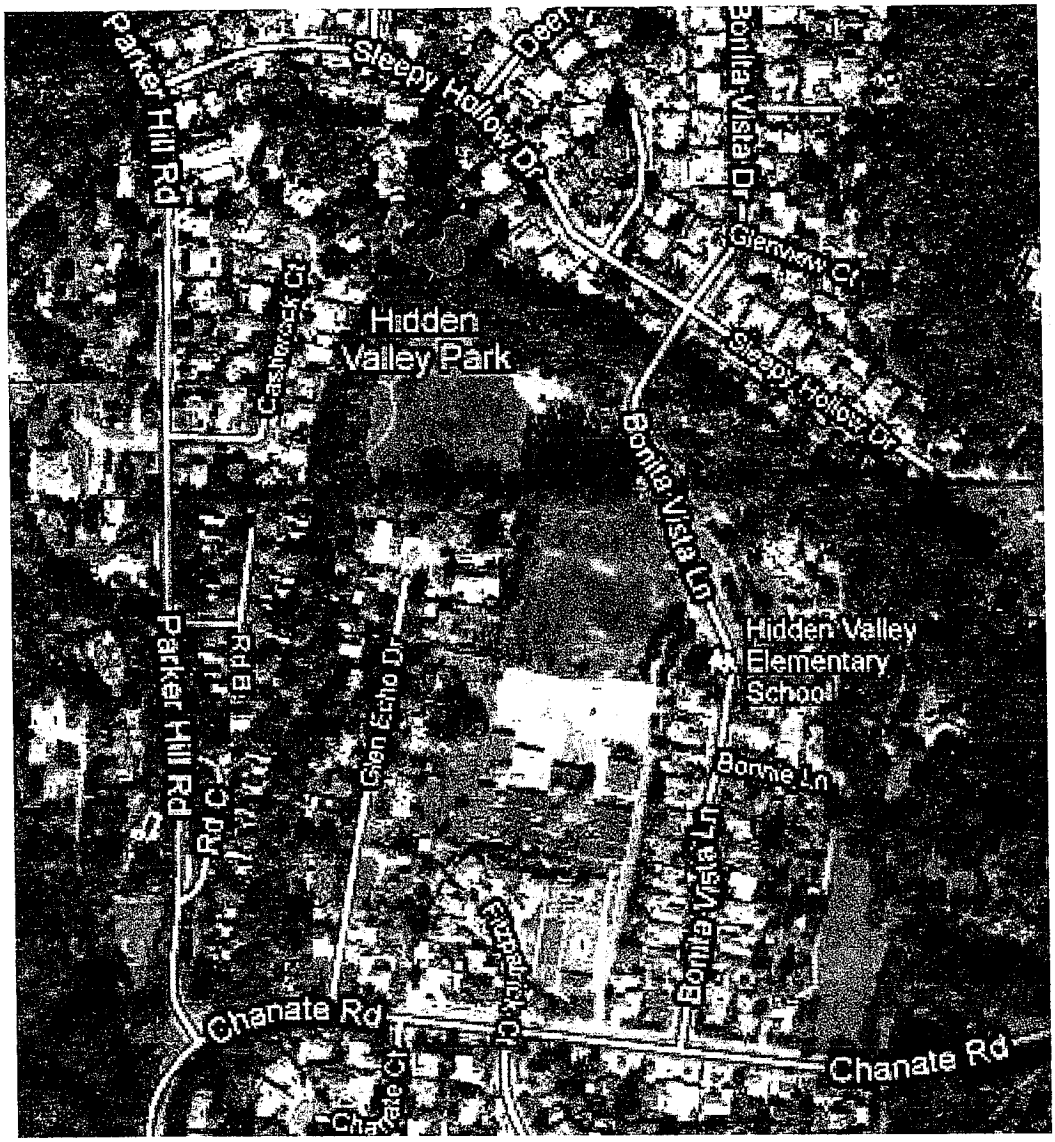
Plant Survival
Plant establishment work begins in Spring 2012. Should survival of container plants fall below 80% by the end of the first year after installation of each phase, TBI will replace dead plants to bring the totals up to 90% or more of the originally installed plants. However, TBI is not responsible for damages due to vandals, fire, livestock, flooding, erosion or other disasters out of TBI's control.

Budget. Please see the attached project budget.

Supporting documents.

- Project map
- Letters of commitment from participating partners:
    1. Prunuske Chatham, Inc.
    2. City of Santa Rosa

Hidden Valley Park



PRUNUSKE CHATHAM, INC.

December 8, 2010

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Sonoma County Water Agency
404 Aviation Blvd.
Santa Rosa, CA 94503

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Liza Prunuske
Principal

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Please contact me at (707) 543-3845 or ableifuss@srcity.org if you have any questions.

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Environmental Specialist

L:\Creek Stewardship\Partners\STRAW\2010 City of Santa Rosa letter of support for STRAW.doc

UTILITIES DEPARTMENT
69 Stony Circle • Santa Rosa, CA 95401
Phone: (707) 543-4200 • Fax: (707) 543-3936

IRS Department of the Treasury
Internal Revenue Service
P.O. Box 2508
Cincinnati OH 45201

AUG 25 2008

Appendix C

In reply refer to: 0248455888
Aug. 21, 2008 LTR 4168C E0
94-2717001 000000 00 000
00023749
BODC: TE

BAY INSTITUTE OF SAN FRANCISCO
695 DE LONG AVE STE 100
NOVATO CA 94945-3350251

023790

Employer Identification Number: 94-2717001
Person to Contact: SELLERS
Toll Free Telephone Number: 1-877-829-5500

Dear TAXPAYER:

This is in response to your request of Aug. 12, 2008, regarding your tax-exempt status.

Our records indicate that a determination letter was issued in AUGUST 1981, that recognized you as exempt from Federal income tax, and discloses that you are currently exempt under section 501(c)(3) of the Internal Revenue Code.

Our records also indicate you are not a private foundation within the meaning of section 509(a) of the Code because you are described in section(s) 509(a)(1) and 170(b)(1)(A)(vi).

Donors may deduct contributions to you as provided in section 170 of the Code. Bequests, legacies, devises, transfers, or gifts to you or for your use are deductible for Federal estate and gift tax purposes if they meet the applicable provisions of sections 2055, 2106, and 2522 of the Code.

If you have any questions, please call us at the telephone number shown in the heading of this letter.

Sincerely yours,

Michele M. Sullivan

Michele M. Sullivan, Oper. Mgr.
Accounts Management Operations I

HIDDEN VALLEY-3 Sites/3 Years			2011-12 Restoration Site						
The Bay Institute					2011-12	2012-13	2013-14	2014-15	2015-16
Students & Teachers Restoring a Watershed (STRAW)			2011-12	2011-12	Summer	Summer	Summer	Summer	Summer
125 Container Plants with DRIWATER			Aug-May	Nov-Feb	2012	2013	2014	2015	2016
		Total	Volunteer & Teacher Trainings, Classroom Support	Planning/ Restoration	Evaluation/Establishment/Reporting Yr 1	Evaluation/Establishment/Reporting Yr 2	Evaluation/Establishment/Reporting Yr 3	Evaluation/Establishment/Reporting Yr4	Evaluation/Establishment/Reporting Yr 5
HOURS									
Program Director		22	8	8	2	2	2	2	2
Restoration Manager		48	2	28	6	6	6	6	6
Restoration Assistant Manager		48	4	20	8	8	8	8	8
Watershed Education Coordinators (3)		94	6	32	24	16	16	16	16
Project Manager/Finance		8		4	1	1	2	2	2
Total		220	20	92	41	33	34	34	34
DOLLARS									
Program Director	105.00	2,730	840	840	210	210	210	210	210
Restoration Manager	85.00	5,100	170	2,380	510	510	510	510	510
Restoration Assistant Manager	75.00	4,800	300	1,500	600	600	600	600	600
Watershed Education Coordinators (3)	75.00	9,450	450	2,400	1,800	1,200	1,200	1,200	1,200
Project Manager/Finance	75.00	900	0	300	75	75	150	150	150
Total		22,980	1,760	7,420	3,195	2,595	2,670	2,670	2,670
EE Benefits	24.0%	5,515	422	1,781	767	623	641	641	641
Subtotal STRAW labor		28,495	2,182	9,201	3,962	3,218	3,311	3,311	3,311
PCI (High first year)		3,000		2,500	500				
Faculty, Ed Consultants		400	400						
Ttl Tech cons		3,400	400	2,500	500	0	0	0	0
Plants, Materials ($10 each)		1,250		1,250					
Driwater ($32.60 life of each plant)		4,077			1,359	1,359	1,359		
Storage, toilet		165		80	85				
Mileage/Vehicle Expense		100	25	50	25				
Teacher Network costs (4 teachers 4.6%)		690	690						
GRAND TOTAL		38,177	3,297	13,081	5,931	4,577	4,534	4,534	3,311
MATCH									
Teachers(4), Students (100) , Volunteers (21) @ 4 hrs @ $20/hour		10,000		10,000					

PROJECT TOTAL		48,177	3,297	23,081	5,931	4,577	4,534	4,524	3,311	

HIDDEN VALLEY-3 Sites/3 Years	2012-13 Restoration Site							
The Bay Institute				2012-13	2013-14	2014-15	2015-16	2016-17
Students & Teachers Restoring a Watershe		2012-13	2012-13	Summer	Summer	Summer	Summer	Summer
125 Container Plants with DRIWATER		Aug-May	Nov-Feb	2013	2014	2015	2016	2017
	Total	**Volunteer & Teacher Trainings, Classroom Support**	**Planning/ Restoration**	**Evaluation/Establishment/Reporting Yr 1**	**Evaluation/Establishment/Reporting Yr 2**	**valuation/Establishment/Reportin Yr 3**	**valuation/Establishment/Reporting Yr 4**	**Evaluation/Establishment/Reporting Yr 5**
Program Director	**22**	8	8	2	2	2	2	2
Restoration Manager	**48**	2	28	6	6	6	6	6
Restoration Assistant Manager	**48**	4	20	8	8	8	8	8
Watershed Education Coordinators (3)	**94**	6	32	24	16	16	16	16
Project Manager/Finance	**8**		4	1	1	2	2	2
Total	**220**	**20**	**92**	**41**	**33**	**34**	**34**	**34**
Program Director	2,730	840	840	210	210	210	210	210
Restoration Manager	5,100	170	2,380	510	510	510	510	510
Restoration Assistant Manager	4,800	300	1,500	600	600	600	600	600
Watershed Education Coordinators (3)	9,450	450	2,400	1,800	1,200	1,200	1,200	1,200
Project Manager/Finance	825	0	300	75	75	75	150	150
Total	22,905	1,760	7,420	3,195	2,595	2,595	2,670	2,670
EE Benefits	5,497	422	1,781	767	623	623	641	641
Subtotal STRAW labor	**28,402**	**2,182**	**9,201**	**3,962**	**3,218**	**3,218**	**3,311**	**3,311**
PCI (High first year)	**2,000**		1,500	500				
Faculty, Ed Consultants	**400**	400						
Ttl Tech cons	**2,400**	**400**	**1,500**	**500**	**0**	**0**	**0**	**0**
Plants, Materials ($10 each)	**1,250**		1,250					
Driwater ($32.60 life of each plant)	**4,077**			1,359	1,359	1,359		
Storage, toilet	**165**		80	85				
Mileage/Vehicle Expense	**100**	25	50	25				
Teacher Network costs (4 teachers 4.6%)	**690**	690						
GRAND TOTAL	**37,084**	**3,297**	**12,081**	**5,931**	**4,577**	**4,534**	**4,534**	**3,311**
MATCH								
Teachers(4), Students (100) , Volunteers (21) @ 4 hrs @ $20/hour	10,000		10,000					

PROJECT TOTAL	47,084	3,297	22,081	5,931	4,577			3,311	

Appendix C

HIDDEN VALLEY-3 Sites/3 Years	2013-14 Restoration Site							
The Bay Institute				2013-14	2014-2015	2015-16	2016-17	2017-18
Students & Teachers Restoring a Watershe		2013-14	2013-14	Summer	Summer	Summer	Summer	Summer
125 Container Plants with DRIWATER		Aug-May	Nov-Feb	2014	2015	2016	2017	2018
	Total	Volunteer & Teacher Trainings, Classroom Support	Planning/ Restoration	Evaluation/Establishment/Reporting Yr 1	Evaluation/Establishment/Reporting Yr 2	Evaluation/Establishment/Reporting Yr 3	Evaluation/Establishment/Reporting Yr 4	Evaluation/Establishment/Reportin5 Yr 5
Program Director	22	8	8	2	2	2	2	2
Restoration Manager	48	2	28	6	6	6	6	6
Restoration Assistant Manager	48	4	20	8	8	8	8	8
Watershed Education Coordinators (3)	94	6	32	24	16	16	16	16
Project Manager/Finance	8		4	1	1	2	2	2
Total	**220**	**20**	**92**	**41**	**33**	**34**	**34**	**34**
Program Director	2,730	840	840	210	210	210	210	210
Restoration Manager	5,100	170	2,380	510	510	510	510	510
Restoration Assistant Manager	4,800	300	1,500	600	600	600	600	600
Watershed Education Coordinators (3)	9,450	450	2,400	1,800	1,200	1,200	1,200	1,200
Project Manager/Finance	900	0	300	75	75	150	150	150
Total	22,980	1,760	7,420	3,195	2,595	2,670	2,670	2,670
EE Benefits	5,515	422	1,781	767	623	641	641	641
Subtotal STRAW labor	**28,495**	**2,182**	**9,201**	**3,962**	**3,218**	**3,311**	**3,311**	**3,311**
PCI (High first year)	1,500		1,250	250				
Faculty, Ed Consultants	400	400						
Ttl Tech cons	**1,900**	**400**	**1,250**	**250**	**0**	**0**	**0**	**0**
Plants, Materials ($10 each)	1,250		1,250					
Driwater ($32.60 life of each plant)	4,077			1,359	1,359	1,359		
Storage, toilet	165		80	85				
Mileage/Vehicle Expense	100	25	50	25				
Teacher Network costs (4 teachers 4.6%)	690	690						
GRAND TOTAL	**36,677**	**3,297**	**11,831**	**5,681**	**4,577**	**4,534**	**4,534**	**3,311**
MATCH								
Teachers(4), Students (100) , Volunteers (21) @ 4 hrs @ $20/hour	10,000		10,000					

PROJECT TOTAL	46,677		3,297	21,831	5,681	4,577	4,534	4,534	3,311

Appendix C

HIDDEN VALLEY-3 Sites/3 Years	Overall: Life of 5 Year Hidden Valley Project -3 Sites							
The Bay Institute								
Students & Teachers Restoring a Watershe								
125 Container Plants with DRIWATER								
	Total	Volunteer & Teacher Trainings, Classroom Support	Planning/ Restoration	Evaluation/Establishment/Reporting Yr 1	Evaluation/Establishment/Reporting Yr 2	Evaluation/Establishment/Reporting Yr 3	Evaluation/Establishment/Reporting Yr 4	Evaluation/Establishment/Reporting Yr 5
Program Director	66	24	24	6	6	6	6	6
Restoration Manager	144	6	84	18	18	18	18	18
Restoration Assistant Manager	144	12	60	24	24	24	24	24
Watershed Education Coordinators (3)	282	18	96	72	48	48	48	48
Project Manager/Finance	24	0	12	3	3	8	6	6
Total	**660**	**60**	**276**	**123**	**99**	**102**	**102**	**102**
Program Director	8,190	2,520	2,520	630	630	630	630	630
Restoration Manager	15,300	510	7,140	1,530	1,530	1,530	1,530	1,530
Restoration Assistant Manager	14,400	900	4,500	1,800	1,800	1,800	1,800	1,800
Watershed Education Coordinators (3)	28,350	1,350	7,200	5,400	3,600	3,600	3,600	3,600
Project Manager/Finance	2,625	0	900	225	225	450	450	450
Total	68,865	5,280	22,260	9,585	7,785	8,010	8,010	8,010
EE Benefits	16,528	1,267	5,342	2,300	1,868	1,922	1,922	1,922
Subtotal STRAW labor	**85,393**	**6,547**	**27,602**	**11,885**	**9,653**	**9,932**	**9,932**	**9,932**
PCI (High first year)	6,500	0	5,250	1,250	0	0	0	0
Faculty, Ed Consultants	1,200	1,200	0	0	0	0	0	0
Ttl Tech cons	**7,700**	**1,200**	**5,250**	**1,250**	**0**	**0**	**0**	**0**
Plants, Materials ($10 each)	3,750	0	3,750	0	0	0	0	0
Driwater ($32.60 life of each plant)	12,231	0	0	4,077	4,077	3,669	3,669	0
Storage, toilet	495	0	240	255	0	0	0	0
Mileage/Vehicle Expense	300	75	150	75	0	0	0	0
Teacher Network costs (4 teachers 4.6%)	2,070	2,070	0	0	0	0	0	0
GRAND TOTAL	**111,939**	**9,892**	**36,992**	**17,542**	**13,730**	**13,601**	**13,601**	**9,932**
MATCH								
Teachers(4), Students (100) , Volunteers (21) @ 4 hrs @ $20/hour	30,000	0	30,000	0	0	0	0	0

PROJECT TOTAL	141,939	9,892	66,992	17,542	13,730	13,601	13,601	9,932	

Appendix C

Watershed Partnership Program Project Funding Application

APPLICATION INFORMATION

Applicant/Lead Organization Address
The Bay Institute
695 De Long Avenue, Suite 100
Novato, CA 94945
(415) 878-2929
www.bay.org

Contact Name and Title: Sheryl Barbic, Institutional Advancement Manager

Telephone: (415) 878-2929, 35

Email Address: barbic@bay.org

Signature and Date

12/10/10

List of Other Participating Organizations
The project team consists of the following organizations: City of Santa Rosa, Landpaths, Prunuske Chatham, Inc., Brookhill Elementary School, Doyle Park Elementary School, and Montgomery High School.

PROJECT INFORMATION

Project Name: STRAW: Matanzas Creek Restoration and Education Project in Doyle Park

Project Location: Matanzas Creek

Total Project Budget: $120,324 over five years, with match

Available Matching Funds
STRAW will contribute an in-kind match in the form of volunteer hours totaling $9,120. Restoration activities will engage four classes of students from Montgomery High School (1 class), Brookhill Elementary (1 class), and Doyle Elementary School (2 classes) (4 teachers, 100 students, 10 community volunteers = 114 volunteers x 4 hours = 456 hours x $20/hr = $9,120).

Total Requested through WPP
The project budget is as follows: Restoration for 3 years: Year 1: $31,089; Year 2: $30,996; Year 3: $30,879. The overall total project budget for 3 years of restoration with 5 years of monitoring: $92,964.

Proposal Narrative

Project Description and Benefits
The Bay Institute's (TBI's) Students and Teachers Restoring A Watershed (STRAW) Project proposes to work with students, teachers, and community volunteers on professionally-designed riparian habitat restorations at Matanzas Creek in Doyle Park. Matanzas Creek is a tributary to the Laguna de Santa Rosa, the largest sub-watershed of the Russian River. This is a multi-phase project along the reach within Doyle Park, just upstream of the confluence with Spring Creek in Santa Rosa. The site currently has healthy, heritage overstory vegetation, and a non-functioning understory, consisting of dense populations of non-native English Ivy (*Hedera helix*) and Periwinkle (*Vinca major*).

The goals of this project are twofold. One is to enhance the non-functioning understory described above by the removal of these non-native invasives and the installation of native shrubs and grasses. The other goal is to engage students from schools serving underserved communities in Sonoma County in the active enhancement of their community watershed. In addition, this project will build on seven years of previous work completed by the STRAW Project. This site was selected because of its proximity to the Sonoma County Water Agency's proposed stream maintenance sites for 2011, and to the schools who have participated in this project in the past. This project is in a highly-visible public location and allows for the work of all parties involved to be showcased to the greater Santa Rosa community.

Students will participate in professionally-designed habitat restoration planned by Prunuske Chatham, Inc. (PCI), an environmental engineering firm that specializes in ecological restoration, hydrology, revegetation, and erosion control. PCI designs professional quality habitat restorations for students to conduct.

We propose a three-year project to be conducted in phases, with each phase expanding the project towards the confluence of Matanzas and Spring creeks within Doyle Park. Each phase will include continued removal of populations of the non-native English ivy (*Hedera helix*) and periwinkle (*Vinca major*) along approximately 150 linear feet of creek bank. Approximately 200 native shrubs and grasses will be installed that have been selected from studies of reference reaches within Matanzas Creek and the Laguna de Santa Rosa watershed under the guidance of PCI staff. Phase I will be completed in the 2011-2012 school year, phase II will be completed in the 2012-2013 school year, and phase III will be completed in the 2013-2014 school year.

The following services will be provided by TBI's STRAW Project and PCI in the design and implementation of the project:

EDUCATION

Services provided by TBI:

- Teachers participating in planting days will have the opportunity to participate in our annual Watershed Week, a three-day professional development workshop that focuses on the many aspects of watershed science. This event's central theme changes annually based on input from our teacher network and partners.
- Teachers participating in planting days will have the opportunity to participate in two network events throughout the school year, which focus on timely environmental topics that are generated from feedback from our teacher network.
- Students will receive a pre-planting presentation about their project, including watershed and restoration science, as well as site specific training and details.
- Classes will receive any additional in-class and/or field activities as requested by their teacher to supplement their traditional class curriculum. Examples of topics include macroinvertebrates, water quality, ornithology, geology, and mapping. STRAW staff, STRAW Faculty, and partners teach these topics as appropriate.
- Classes will have the opportunity to participate in our annual virtual Summit, which allows them to share their work with the greater North Bay community.

DESIGN AND IMPLEMENTATION:

Services provided by TBI:

- Staff to prepare site for student planting days.
- Staff to procure all materials for the project.
- Accompany PCI designer at site for layout, pin-flagging, and identification of hazards.
- Mark hazards.
- Implement final design with student and community volunteers after SCWA, PCI, and landowner approval.
- Oversee the distribution of students, adult volunteers, and supervisors throughout the work site to ensure project quality and success.
- Note the number and type of plantings installed at each site, as well as the length of riparian corridor covered by the restoration.
- Provide reports as needed to SCWA.

Services provided by PCI

- Locate the project site in the field.
- Develop a species list and planting plan.
- Prepare planting and maintenance specifications.
- Lay out planting locations in the field.
- Work with TBI staff as needed to insure planting success.

How does this project advance goals for the Water Agency's Stream Maintenance Program and pertain to the 2011 planned maintenance work?
The Matanzas Creek project helps advance the goals for SCWA's Stream Maintenance Program in a variety of ways. The project will reduce invasive species from the flood corridor and improves stream function for flood protection by removing non- native English ivy (*Hedera helix*) and periwinkle (*Vinca major*). These species provide poor sediment retention due to their shallow root structures and are components of poor quality habitat. The installation of appropriate natives will enhance both understory and overall riparian habitat quality. This project pertains to 2011 planned maintenance work both through the reach scale work planned for the Laguna de Santa Rosa in zone 1A as well as work at the reservoir outlet on Matanzas Creek upstream.

Location. Right of Way Access.
The project site on Matanzas Creek is located in Doyle Park. The landowner of the property is the City of Santa Rosa. The City has provided access for restoration, maintnenace, and monitoring to the STRAW Project for the past seven years.

Project Partners.
Project partners include: the City of Santa Rosa (landowner), Landpaths, Prunuske Chatham, Inc., Brookhill Elementary School, Doyle Park Elementary School, and Montgomery High School. Community involvement is addressed by bringing teachers and their students on to the property to conduct restoration activities.

Project Schedule, including implementation, maintenance, and monitoring.
STRAW uses the following annual timeline for restoration, monitoring, and maintenance activities. Project activities will be conducted annually for three years. The overall project will be conducted in three phases, completing one cycle per year. Maintenance of project sites will continue for two additional years, for a total of five cycles.

Month(s)	Activities
July/August	Site reconnaissance/restoration planning and design Teacher professional development at Watershed Week Begin scheduling classes for restoration sites
September/October	Finalize restoration planning and design Finalize scheduling classes for restoration sites Conduct in-class presentations for restoration Conduct fall teacher professional development seminar
November-March	Restoration implementation Conduct spring teacher professional development seminar
April-October	On-going maintenance of project site

October	Monitoring conducted

Project Permitting.
No permitting is required for revegetation efforts.

Length and area and number of species of plants installed.

Minimum Project Dimensions (per phase) 150ft x 50ft = 7500ft^2

Minimum Number of Species Installed (per phase): 200

Shrubs and grasses will be installed that have been selected from studies of reference reaches within Matanzas Creek and the Laguna de Santa Rosa watershed under the guidance of PCI staff.

Maintenance and Monitoring.
Plants are maintained and monitored for a five-year establishment period, and monitoring data facilitate the project team in adaptively managing project sites by helping us to identify site specific variables that contribute to plant mortality. Maintenance and monitoring activities per phase will include:

- Regularly inspect plantings from late spring through early fall for five years – as often as once per week, but no less that once per month for the first year, and once per month for the following four years.
- Maintain plantings by weeding.
- Irrigate plantings for three years as necessary when conditions require water application. Due to vandalism considerations on site, we will not be installing any permanent irrigation structures on site. If additional irrigation is required during the final two year monitoring period, water will be applied as necessary.
- Monitor plant survival by species in October to inform future planting designs.
- Perform annual photomonitoring using the State Water Resources Control Board's Standard Operating Procedure 5.2.3.

Plant Survival
Plant establishment work begins in Spring 2012. Should survival of container plants fall below 80% by the end of the first year after installation of each phase, TBI will replace dead plants to bring the totals up to 90% or more of the originally installed plants. However, TBI is not responsible for damages due to vandals, fire, livestock, flooding, erosion or other disasters out of TBI's control.

Budget. Please see the attached project budget.

Supporting documents.

- Project map
- Site photographs
- Letters of commitment from participating partners:
    1. Prunuske Chatham, Inc.
    2. City of Santa Rosa

PRUNUSKE CHATHAM, INC.

December 8, 2010

Grant Davis
Sonoma County Water Agency
404 Aviation Blvd.
Santa Rosa, CA 94503

Dear Grant:

I am writing in support of The Bay Institute's Students and Teachers Restoring a Watershed Project. As you know, Prunuske Chatham, Inc. (PCI) has worked with STRAW since its inception over 18 years ago. We design riparian and wetland restoration for teachers and their students to implement under the direction and supervision of STRAW staff.

This letter is specifically to support STRAW's work at the Roseland Creek, Copeland Creek, Palin Creek, Matanzas Creek and East Washington Creek restoration sites. PCI has worked with STRAW on SCWA sites for over ten years. We are committed to continuing that partnership to revitalize the ecosystem function of Sonoma County's creeks while providing opportunities for students to care for and connect with their bigger home.

Sincerely,

Liza Prunuske
Principal

400 MORRIS STREET, SUITE G · SEBASTOPOL CA 95472 · 707 824-4600 · FAX 707 824-6854

City of
Santa Rosa

December 9, 2010

Grant Davis
Sonoma County Water Agency
404 Aviation Blvd.
Santa Rosa, CA 94503

Dear Mr. Davis:

The City of Santa Rosa and the Creek Stewardship Program gladly offer their support to The Bay Institute's Students and Teachers Restoring a Watershed (STRAW) Project for continuing their excellent creek education and restoration activities with youth in Santa Rosa.

The Creek Stewardship Program operates under a Joint Funding Agreement between the City and Sonoma County Water Agency with a primary goal of encouraging community support in the care of the 90 miles of creeks that flow through the urban area. A key to building community involvement is educating youth who not only readily retain the knowledge gained but also transfer it to their peers and families.

The City has partnered with STRAW since 2004 and would very much like to see their impressive program continued at the current restoration sites on Matanzas, Paulin, and Roseland Creeks as well as on any other creeks within the City that STRAW can accommodate.

Specific support for STRAW will be provided in the form of staff time to assist in project development and on restoration work days. The City is also willing to provide delivery and hauling off of materials and help with maintenance and monitoring.

STRAW's efforts are particularly valuable because they make youth aware that urban creeks near their school or in their neighborhood do have environmental value and that young people, working together can make a huge and lasting difference. The City of Santa Rosa strongly encourages the Sonoma County Water Agency to support STRAW as much as possible to continue this fantastic program.

Please contact me at (707) 543-3845 or ableifuss@srcity.org if you have any questions.

Sincerely,

Alistair Bleifuss

Alistair Bleifuss
Environmental Specialist

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UTILITIES DEPARTMENT
69 Stony Circle • Santa Rosa, CA 95401
Phone: (707) 543-4200 • Fax: (707) 543-3936

LandPaths
www.LandPaths.org

Grant Davis
Sonoma County Water Agency
404 Aviation Blvd.
Santa Rosa, CA 94503

December 8, 2010

Dear Mr. Davis:

This letter is in support of The Bay Institute's Students and Teachers Restoring a Watershed (STRAW) Project at Matanzas Creek with the Sonoma County Water Agency. LandPaths has partnered with STRAW on restoration projects along Matanzas Creek (Doyle Park) over the last six years.

The collaboration between LandPaths and STRAW provides students hands-on restoration opportunities and builds on a series of visits to the nearby classrooms. Each organization brings a specialized skill set to the partnership that enriches our programs. We rely on each other for various advice and support in education and restoration techniques. LandPaths in particular relies on STRAW to provide excellent organization, up to date restoration knowledge and techniques and superior staff that are not only extremely skilled and knowledgeable, but also a genuine pleasure to work with.

LandPaths is in strong support of the Matanzas Creek restoration. The restoration brings many students from underserved communities of Santa Rosa into their watershed where they become active participants as stewards of the creek. The partnership with STRAW has been an incredibly valuable one for our staff, the students of Sonoma County and the health of the Matanzas Creek Watershed through the removal of invasive, non-native plants and planting of native species.

Please do not hesitate to contact me with any questions regarding the Matanzas Creek restoration or our collaboration with STRAW.

Sincerely,

Bree B Arthur

Bree Benton Arthur
LandPaths Education Director
education@landpaths.org
707-544-7284 ext.13

Doyle Park

Doyle Park Dr
Hoen Ave
Hoen Ln
Vallejo St
Site Location
Green Cir
Alvarado Ave
Morton Way
Karen Way
Image City of Santa Rosa
N Olive Dr

Photos

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P.O. Box 2508
Cincinnati OH 45201

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Employer Identification Number: 94-2717001
Person to Contact: SELLERS
Toll Free Telephone Number: 1-877-829-5500

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Our records also indicate you are not a private foundation within the meaning of section 509(a) of the Code because you are described in section(s) 509(a)(1) and 170(b)(1)(A)(vi).

Donors may deduct contributions to you as provided in section 170 of the Code. Bequests, legacies, devises, transfers, or gifts to you or for your use are deductible for Federal estate and gift tax purposes if they meet the applicable provisions of sections 2055, 2106, and 2522 of the Code.

If you have any questions, please call us at the telephone number shown in the heading of this letter.

Sincerely yours,

Michele M. Sullivan

Michele M. Sullivan, Oper. Mgr.
Accounts Management Operations I

Matanzas Creek Budget	2011-12 Restoration Site								
The Bay Institute					2011-12	2012-13	2013-14	2014-15	2015-16
Students & Teachers Restoring a Watershed (STRAW)			2011-12	2011-12	Summer	Summer	Summer	Summer	Summer
200 Container Plants			Aug-May	Nov-Feb	2012	2013	2014	2015	2016
		Total	Volunteer & Teacher Trainings, Classroom Support	Planning/ Restoration	Evaluation/Establishment/Reporting Yr 1	Evaluation/Establishment/Reporting Yr 2	Evaluation/Establishment/Reporting Yr 3	Evaluation/Establishment/Reporting Yr4	Evaluation/Establishment/Reporting Yr 5
HOURS									
Program Director		22	2	8	2	2	2	2	2
Restoration Manager		48	2	24	6	6	6	6	6
Restoration Assistant Manager		48	4	18	8	8	8	8	8
Watershed Education Coordinators (3)		94	6	28	24	20	20	12	12
Project Manager/Finance		8		4	1	1	2	2	2
Total		220	14	82	41	37	34	34	30
DOLLARS									
Program Director	105.00	2,100	210	840	210	210	210	210	210
Restoration Manager	85.00	4,760	170	2,040	510	510	510	510	510
Restoration Assistant Manager	75.00	4,650	300	1,350	600	600	600	600	600
Watershed Education Coordinators (3)	75.00	9,150	450	2,100	1,800	1,500	1,200	1,200	900
Project Manager/Finance	75.00	900	0	300	75	75	150	150	150
Total		21,560	1,130	6,630	3,195	2,895	2,670	2,670	2,370
EE Benefits	24.0%	5,174	271	1,591	767	695	641	641	569
Subtotal STRAW labor		26,734	1,401	8,221	3,962	3,590	3,311	3,311	2,939
PCI		1,000		500	500				
Faculty, Ed Consultants		400	400						
Ttl Tech cons		1,400	400	500	500	0	0	0	0
Plants, Materials ($10 each)		2,000		2,000					
Storage, toilet		165		80	85				
Mileage/Vehicle Expense		100	25	50	25				
Teacher Network costs (4 teachers 4.6%)		690	690						
GRAND TOTAL		31,089	2,516	10,851	4,572	3,590	4,534	4,534	2,939
MATCH									
Teachers(4), Students (100) , Volunteers (10) @ 4 hrs @ $20/hour		9,120		9,120					

PROJECT TOTAL		40,209	2,516	19,971	4,572	3,590	4,534	4,524	2,939

Matanzas Creek Budget	2012-13 Restoration Site							
The Bay Institute				2012-13	2013-14	2014-15	2015-16	2016-17
Students & Teachers Restoring a Watershe		2012-13	2012-13	Summer	Summer	Summer	Summer	Summer
200 Container Plants		Aug-May	Nov-Feb	2013	2014	2015	2016	2017
	Total	Volunteer & Teacher Trainings, Classroom Support	Planning/ Restoration	Evaluation/Establishment/Reporting Yr 1	Evaluation/Establishment/Reporting Yr 2	valuation/Establishment/Reportin Yr 3	valuation/Establishment/Reporting Yr 4	Evaluation/Establishment/Reporting Yr 5
Program Director	22	2	8	2	2	2	2	2
Restoration Manager	48	2	24	6	6	6	6	6
Restoration Assistant Manager	48	4	18	8	8	8	8	8
Watershed Education Coordinators (3)	94	6	28	24	20	20	12	12
Project Manager/Finance	8		4	1	1	2	2	2
Total	**220**	**14**	**82**	**41**	**37**	**34**	**34**	**30**
Program Director	2,100	210	840	210	210	210	210	210
Restoration Manager	4,760	170	2,040	510	510	510	510	510
Restoration Assistant Manager	4,650	300	1,350	600	600	600	600	600
Watershed Education Coordinators (3)	9,150	450	2,100	1,800	1,500	1,200	1,200	900
Project Manager/Finance	825	0	300	75	75	75	150	150
Total	21,485	1,130	6,630	3,195	2,895	2,595	2,670	2,370
EE Benefits	5,156	271	1,591	767	695	623	641	569
Subtotal STRAW labor	**26,641**	**1,401**	**8,221**	**3,962**	**3,590**	**3,218**	**3,311**	**2,939**
PCI	1,000		500	500				
Faculty, Ed Consultants	400	400						
Ttl Tech cons	**1,400**	**400**	**500**	**500**	**0**	**0**	**0**	**0**
Plants, Materials ($10 each)	2,000		2,000					
Storage, toilet	165		80	85				
Mileage/Vehicle Expense	100	25	50	25				
Teacher Network costs (4 teachers 4.6%)	690	690						
GRAND TOTAL	**30,996**	**2,516**	**10,851**	**4,572**	**3,590**	**4,534**	**4,534**	**2,939**
MATCH								
Teachers(4), Students (100) , Volunteers (10) @ 4 hrs @ $20/hour	9,120		9,120					

PROJECT TOTAL	40,116	2,516	19,971	4,572	3,590			2,939

Matanzas Creek Budget	2013-14 Restoration Site							
The Bay Institute				2013-14	2014-2015	2015-16	2016-17	2017-18
Students & Teachers Restoring a Watershe		2013-14	2013-14	Summer	Summer	Summer	Summer	Summer
200 Container Plants		Aug-May	Nov-Feb	2014	2015	2016	2017	2018
	Total	Volunteer & Teacher Trainings, Classroom Support	Planning/ Restoration	Evaluation/Establishment/Reporting Yr 1	Evaluation/Establishment/Reporting Yr 2	Evaluation/Establishment/Reporting Yr 3	Evaluation/Establishment/Reporting Yr 4	Evaluation/Establishment/Reportin5 Yr 5
Program Director	22	2	8	2	2	2	2	2
Restoration Manager	48	2	24	6	6	6	4	4
Restoration Assistant Manager	48	4	18	8	8	8	8	8
Watershed Education Coordinators (3)	94	6	28	24	20	20	12	12
Project Manager/Finance	8		4	1	1	2	2	2
Total	**220**	**14**	**82**	**41**	**37**	**34**	**34**	**28**
Program Director	2,100	210	840	210	210	210	210	210
Restoration Manager	4,590	170	2,040	510	510	510	510	340
Restoration Assistant Manager	4,650	300	1,350	600	600	600	600	600
Watershed Education Coordinators (3)	9,150	450	2,100	1,800	1,500	1,200	1,200	900
Project Manager/Finance	900	0	300	75	75	150	150	150
Total	21,390	1,130	6,630	3,195	2,895	2,670	2,670	2,200
EE Benefits	5,134	271	1,591	767	695	641	641	528
Subtotal STRAW labor	**26,524**	**1,401**	**8,221**	**3,962**	**3,590**	**3,311**	**3,311**	**2,728**
PCI	1,000		500	500				
Faculty, Ed Consultants	400	400						
Ttl Tech cons	**1,400**	**400**	**500**	**500**	**0**	**0**	**0**	**0**
Plants, Materials ($10 each)	2,000		2,000					
Storage, toilet	165		80	85				
Mileage/Vehicle Expense	100	25	50	25				
Teacher Network costs (4 teachers 4.6%)	690	690						
GRAND TOTAL	**30,879**	**2,516**	**10,851**	**4,572**	**3,590**	**4,534**	**4,534**	**2,728**
MATCH								
Teachers(4), Students (100) , Volunteers (10) @ 4 hrs @ $20/hour	9,120		9,120					

PROJECT TOTAL	39,999	2,516	19,971	4,572	3,590	4,534	4,534	2,728	

Matanzas Creek Budget	Overall: Life of 5 Year Matanzas Creek Project -3 Sites							
The Bay Institute								
Students & Teachers Restoring a Watershe								
200 Container Plants								
	Total	Volunteer & Teacher Trainings, Classroom Support	Planning/ Restoration	Evaluation/Establishment/Reporting Yr 1	Evaluation/Establishment/Reporting Yr 2	Evaluation/Establishment/Reporting Yr 3	Evaluation/Establishment/Reporting Yr 4	Evaluation/Establishment/Reporting Yr 5
Program Director	66	6	24	6	6	6	6	6
Restoration Manager	144	6	72	18	18	18	4	4
Restoration Assistant Manager	144	12	54	24	24	24	24	24
Watershed Education Coordinators (3)	282	18	84	72	60	48	48	36
Project Manager/Finance	24	0	12	3	3	8	6	6
Total	**660**	**42**	**246**	**123**	**111**	**102**	**102**	**76**
Program Director	6,300	630	2,520	630	630	630	630	630
Restoration Manager	14,110	510	6,120	1,530	1,530	1,530	1,530	1,360
Restoration Assistant Manager	13,950	900	4,050	1,800	1,800	1,800	1,800	1,800
Watershed Education Coordinators (3)	27,450	1,350	6,300	5,400	4,500	3,600	3,600	2,700
Project Manager/Finance	2,625	0	900	225	225	450	450	450
Total	64,435	3,390	19,890	9,585	8,685	8,010	8,010	6,940
EE Benefits	15,464	814	4,774	2,300	2,084	1,922	1,922	1,666
Subtotal STRAW labor	**79,899**	**4,204**	**24,664**	**11,885**	**10,769**	**9,932**	**9,932**	**8,606**
PCI	3,000	0	1,500	1,500	0	0	0	0
Faculty, Ed Consultants	1,200	1,200	0	0	0	0	0	0
Ttl Tech cons	**4,200**	**1,200**	**1,500**	**1,500**	**0**	**0**	**0**	**0**
Plants, Materials ($10 each)	6,000	0	6,000	0	0	0	0	0
Storage, toilet	495	0	240	255	0	0	0	0
Mileage/Vehicle Expense	300	75	150	75	0	0	0	0
Teacher Network costs (4 teachers 4.6%)	2,070	2,070	0	0	0	0	0	0
GRAND TOTAL	**92,964**	**7,549**	**32,554**	**13,715**	**10,769**	**13,601**	**13,601**	**8,606**
MATCH								
Teachers(4), Students (100) , Volunteers (10) @ 4 hrs @ $20/hour	27,360	0	27,360	0	0	0	0	0

PROJECT TOTAL	120,324	7,549	59,914	13,715	10,769	13,601	13,601	8,606

Southern Sonoma County Resource Conservation District
1301 Redwood Way, Suite 170 - Petaluma, CA 94954 - Phone (707) 794-1242, ext. 3

IRS Tax Status

The Southern Sonoma County Resource Conservation District is a special district of the State of California that is locally governed by an appointed Board of Directors. The District operates under the California Public Resources Code Division 9, Section 9003 Designation as agencies of the state; which states that "The legislature hereby finds and declares that resource conservation districts are legal subdivisions of the state and, as such are not-for-profit entities. For the purpose of contracting with the state agencies only, resource conservation districts shall be considered agencies of the state".

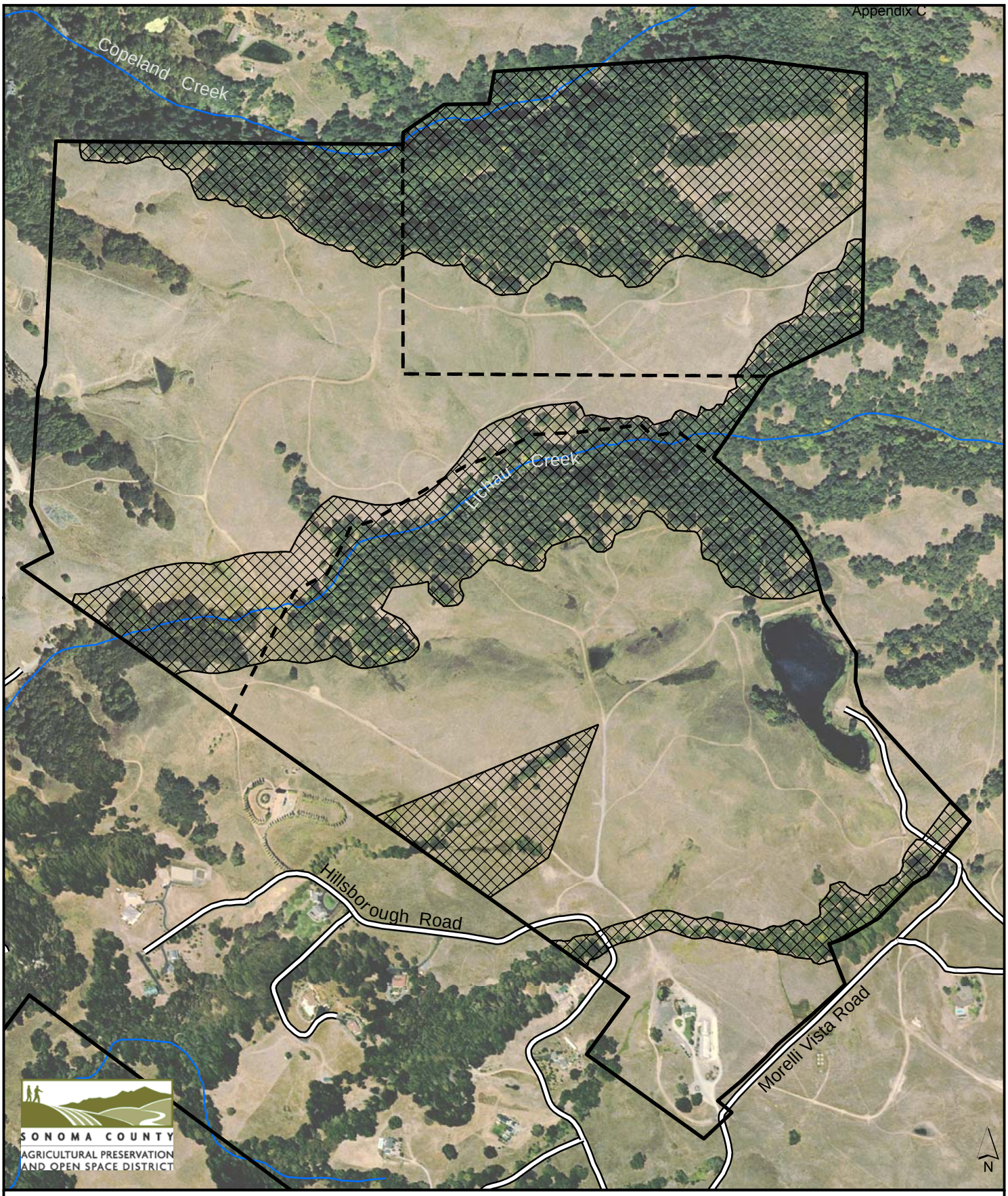
As a California State Subdivision, the Southern Sonoma County Resource Conservation District is an instrumentality of the United States and so is tax exempt under section 170(c) of the Internal Revenue Code.

All grants and donations to the Southern Sonoma Country Resource Conservation are tax deductible under law.

Leandra Swent

Leandra Swent
District Manager
Southern Sonoma County
Resource Conservation District

October 26, 2004



Morelli Conservation Easement

Natural Areas

0 250 500 1,000 Feet

Photo Source: AirPhotoUSA 2004
This map is for illustrative purposes only and is not intended to be a definitive property description.

Easement Boundary
Morelli Parcels
Natural Area Boundary

COTATI CREEK CRITTERS (CCC): Funding Proposal for SCWA/WPP – Fall 2011.

Applicant/Lead Organization address:

Laguna de Santa Rosa Foundation
900 Sanford Road
Santa Rosa, CA 95401

Contact name and title:

David Bannister, Executive Director, Laguna Foundation OR
Jenny Blaker, Outreach Coordinator, Cotati Creek Critters

Telephone:
David Bannister: 707 527-9277 x.103
Jenny Blaker: 707 792 4422

Email address:
David Bannister: david@lagunafoundation.org
Jenny Blaker: jenny@creeks.cotati.info

Signature and date:

List of other (potential) participating organizations:

- City of Cotati
- STRAW (Students & Teachers Restoring a Watershed, the Bay Institute)
- Sonoma State University
- Santa Rosa Junior College
- Conservation Corps North Bay
- St. Joseph Health System-Sonoma County (SJHS-SC) Community Benefit Department
- A wide range of local community organizations
- Local neighbors, residents, and individual volunteers

PROJECT INFORMATION

1. Project Name: Cotati Creek Critters, Upper Laguna de Santa Rosa, Gravenstein Way north to Commerce Blvd.

2. Project Location:
The west/south bank of the Laguna de Santa Rosa channel from the road bridge at Gravenstein Way downstream approximately 2100 ft. to Commerce Blvd.
The area lies within what SCWA's Stream Maintenance Program documents describe as "Upper Laguna – Reach 4".

3. Total project budget:
$45,320 including maintenance over 6 years.

Available matching funds:
In-kind: City of Cotati
In-kind: Volunteer hours
? Intention to apply for grant through Rose Foundation Grassroots Fund
? Intention to apply for grant from Fish & Wildlife Commission

Total requested through WPP

$45,320 over 6 years unless and until other funds can be obtained.

4. Project description
350 appropriate native trees and shrubs will be planted at approximately 10 ft. intervals along the west/south bank of the Laguna channel, in two rows - at the toe, and hinge point - on volunteer "Creek Stewardship Days" organized by Cotati Creek Critters. Each plant will be mulched with cardboard and straw to suppress weeds and maintain soil moisture, and staked for protection from flood debris and mowing. Maintenance will include weeding and removal of invasive species, further mulching as necessary especially before the summer, and limbing up of lower branches of trees close to the creek channel (as per SCWA guidelines) as trees mature. From past experience if plants are well mulched summer watering should not be necessary except in extreme circumstances. If watering is required, SCWA will be asked for assistance.

5. Project benefits
This is an engineered channel, owned in fee by SCWA
(http://www.scwa.ca.gov/files/docs/floodprotection/Zone1A.pdf)
Vegetation such as Himalayan blackberry and cattails are growing in the channel and there is little shade on the west/south side. There are approximately 75 trees already existing on this bank, ranging from alders planted by SCWA to larger native and non-native trees including willows, walnuts, poplars, valley and coast live oaks, and eucalyptus. There is anecdotal evidence of western pond turtles having been observed at Gravenstein Way bridge area approximately 15 years ago, and more recent reports (including from SCWA staff) of otter sightings over the past few winters. More trees planted on the west side will increase shade over the channel, and a wider diversity of native tree and shrub species will increase cover and habitat.

Cotati Creek Critters expertise is in encouraging a sense of environmental stewardship in the community by engaging local volunteers and a wide range of community groups as well as college students. The bike path is well used by local residents for walking and bicycling. There are single family dwellings and an apartment complex to the west, with Draper Park adjacent to the bike path. A car wash business is located on Commerce Blvd to the northwest and several businesses lie alongside Southwest Blvd to the north east. CCC has held Trash Pick Up events beginning at nearby Falletti Park and has used these opportunities to leaflet neighboring residences. Three local households already support CCC's efforts and other neighbors have asked "when CCC is going to start working in this area?" so there is the potential for local volunteer recruitment, increased community support and "eyes on the creek" in the neighborhood.

6. How does this project advance goals for the Water Agency's Stream Maintenance Program and pertain to the 2011 planned maintenance work?

The project will advance the goals of SCWA's Stream Maintenance Program as planting native vegetation will help to stabilize banks, reduce soil erosion and reduce sedimentation downstream; improve water quality; create a shady canopy to help keep water cool and shade vegetation out of the Laguna channel, supporting flood control efforts; enhance habitat for wildlife; and enhance recreational and educational opportunities for local residents.

7. Location - Right of way access.

Nearest roads: Gravenstein Way at the south end of the proposed project area. There is an asphalt bike path from Gravenstein Way to Commerce Blvd./Southwest Blvd., used for SCWA for maintenance access.

8. Project partners. – discuss the role of any project partners or public involvement.

- City of Cotati: Existing in-kind contributions include base of operations and tool storage at City well lot # 2, water and electrical hook up for plant nursery, limited publicity for volunteer outreach, limited copying facilities.
- STRAW (Students & Teachers Restoring a Watershed, the Bay Institute): Has been a regular partner for collaborative volunteer workdays with local elementary school children.
- Sonoma State University: CCC and SSU already collaborate on an internship program for students. Student groups, clubs, and classes regularly volunteer with CCC and individual students frequently volunteer with CCC for credit and/or community service requirements.
- Santa Rosa Junior College: CCC collaborates with SRJC instructors and the Community Involvement program to bring classes and individual students to volunteer workdays.
- St. Joseph Health System-Sonoma County (SJHS-SC) Community Benefit Department: This local organization based in Rohnert Park already has a local neighborhood outreach program and has expressed an interest in working with CCC to support collaborative neighborhood outreach and volunteer recruitment, including Spanish-language outreach to the Latino community.
- Conservation Corps North Bay: Has recently set up a major new facility in Cotati and has provided small trained crews to work with CCC on a few occasions. There is the potential for further mutual collaboration and involvement of trained crews as appropriate.
- A wide range of local community organizations from Boy Scouts to churches and synagogues have set up special workdays with CCC in the past.
- Local neighbors, residents, businesses, and individual volunteers: As mentioned above, there is already local support from some neighboring households and the potential to expand on this through further outreach to the community.

Cotati Creek Critters will organize Creek Stewardship Days and work to recruit local volunteers, in collaboration with Sonoma State University, Santa Rosa Junior College, and local community organizations.

9. Project schedule, including implementation, maintenance, and monitoring.

Year 1: Fall 2011- Spring 2012 – installation of plants
Years 1-6: Monitoring, maintenance, trash removal, report writing.

- Native plants and shrubs for the project are grown at CCC's native plant nursery at Cotati City well lot # 2. More will be obtained as necessary from appropriate local sources, following SCWA's recommended plant list and consultation with SCWA Stream Maintenance staff. (Keenan: Will plants be available via SCWA from SSU and/or Case Grande and if so how many?)
- CCC has built up a collection of tools and equipment, stored at Cotati City well lot # 2, which will be used for the project.
- We will seek permission from the City of Cotati to install a storage container for tools and equipment closer to this project site.
- Approximately 350 native trees and shrubs will be planted on the west/south bank, appropriately placed so as not to interfere with bicyclists and pedestrians on the bicycle path or to impede the flow of water in the channel
- Planting will begin in Fall 2011 and continue through winter and spring 2012.
- Plants will be mulched with cardboard and rice straw for weed suppression and to retain moisture in the soil, and staked for protection from flood debris and mowing.
- Maintenance will include:
    - Weedwhacking to keep down invasive weeds, probably 4 times a year. Estimated 12 hrs. per mowing day, approximately 50 hours total.
    - Volunteer workdays to remove invasive plants, renew mulch as necessary, prune and limb up trees as they mature
    - Trash removal.

10. Project permitting – any necessary permits or approvals.

SCWA has all necessary permits and approvals.

11. Length and area of restoration and species of plants to be installed.

Area of restoration is approximately 2100 ft x 30 ft, although the width of the south/west bank varies.
Plants to be installed include appropriate native riparian trees and shrubs including red alder, California buckeye, coast live oak and valley oak (on upper banks), big leaf maple, box elder, snowberry, flowering currant. A full plant list is available.

12. Budget

	Year 1	Years 2-6/each	Totals	
Moving/ renting/ buying storage container?				
Plants: 100@$7 + supplies	$1,100.00	$300.00	$2,600.00	Plants fr 2; SSU/C
Labor, Yr 1: 10x10x2@$35/year	$7,000.00		$7,000.00	Voluntee
Labor, Yrs 2-6: 5x10x2@$35/year		$3,500.00	$17,500.00	Voluntee
Mowing: 50 hrs@$35/hr + supplies	$2,000.00	$2,000.00	$12,000.00	
Monitoring, reports, admin., misc.			$2,100.00	
Sub-total			$41,200.00	
LF fiscal sponsorship 10%			$4,120.00	
TOTALS			**$45,320.00**	

13. CCC Background: Under a grant from the Ca. Department of Water Resources Urban Stream Restoration program (2005-8) followed by a year of funding by SCWA (2009-10), CCC successfully engaged over 3,000 volunteers from the local community in planting native trees, shrubs, and understory plants along approximately 5,000 linear ft. of the Laguna de Santa Rosa flood control channel, from Liman Way (Rohnert Park) to the bicycle/pedestrian bridge north of E. Cotati Ave. Cotati Creek Critters is fiscally sponsored by the Laguna de Santa Rosa Foundation.

14. References/Links:

- SCWA Zone 1A map showing this section as "Owned in Fee – Engineered Channel": http://www.scwa.ca.gov/files/docs/floodprotection/Zone1A.pdf
- SCWA's description of Laguna – Reach 4 http://www.scwa.ca.gov/files/docs/projects/smp-eir/SMPManual_Figures_Ch4_UpLaguna.pdf

15. Attachments to follow:

- Maps
- Photos
- Support letter from City of Cotati
- Nonprofit status letter from Laguna Foundation
- Support letters from potential partners
- Plant species list if required

Jenny Blaker, Outreach Coordinator
Wade Belew, Stewardship Coordinator
Cotati Creek Critters

December 10, 2010

Internal Revenue Service

Date: June 11, 2005

SONOMA ECOLOGY CENTER
PO BOX 1486
ELDRIDGE CA 95431

Department of the Treasury
P. O. Box 2508
Cincinnati, OH 45201

Person to Contact:
Steve Brown 31-07422
Customer Service Specialist
Toll Free Telephone Number:
8:30 a.m. to 5:30 p.m. ET
877-829-5500
Fax Number:
513-263-3756
Federal Identification Number:
94-3136500

Dear Sir or Madam:

This is in response to the amendment to your organization's Articles of Incorporation filed with the state on October 22, 1998. We have updated our records to reflect the name change as indicated above. We have also updated our records to reflect the address change.

In March 1996 we issued a determination letter that recognized your organization as exempt from federal income tax. Our records indicate that your organization is currently exempt under section 501(c)(3) of the Internal Revenue Code.

Our records indicate that your organization is also classified as a public charity under sections 509(a)(1) and 170(b)(1)(A)(vi) of the Internal Revenue Code.

Our records indicate that contributions to your organization are deductible under section 170 of the Code, and that you are qualified to receive tax deductible bequests, devises, transfers or gifts under section 2055, 2106 or 2522 of the Internal Revenue Code.

If you have any questions, please call us at the telephone number shown in the heading of this letter.

Sincerely,

Janna K. Skufca

Janna K. Skufca, Director, TE/GE
Customer Account Services

Watershed Partnership Program Project Funding Application

APPLICATION INFORMATION

Applicant/Lead Organization Address

Sotoyome Resource Conservation District
2150 West College Ave.
Santa Rosa, CA 95401

Mailing Address:
PO Box 11526
Santa Rosa, CA 95406

Contact Name and Title

Kara Heckert-Executive Director

Telephone

707-568-1448 x104

Email Address

kheckert@sotoyomercd.org

Kara Heckert 12/10/2010

List of Other Participating Organizations

Penngrove LLC, Pfendler Ranches, Bay Institute (landowner permitting), Sonoma State University Environmental Studies and Planning Department (Interns)

PROJECT INFORMATION

Project Name

Copeland Creek Riparian Enhancement and Erosion Control Project

Project Location

The Copeland Creek Riparian Enhancement site is 4 miles east of the City of Rohnert Park and about 1.7 miles east of Sonoma State University. From Highway 101 take the Rohnert Park express way for 2.6 miles and then take a right on Petaluma Hill Rd. Drive 1.2 miles and take a left on Roberts Ranch Rd. Drive 1.3 miles and then take a right on Lichau Rd. Copeland Creek and the project location are on the left hand side (north) of Lichau Rd. (See Project Location Map)

Total Project Budget

$ 136,434.00

Available Matching Funds

$18,000 from Sotoyome RCD property taxes, landowner contributions, and Sonoma State University intern labor time.

Total Requested through WPP

$ 118,434.00

Proposal Narrative

Project Description

The proposed Copeland Creek Riparian Enhancement and Erosion Control Project is a collaborative project between agricultural landowners, Sotoyome RCD, the Bay Institute, and Sonoma State University, that will restore riparian function, improve salmonid habitat, and reduce excessive sediment on a highly impacted reach of Copeland Creek. The project, which builds off of the recommendations in Sotoyome RCD's Copeland Creek Watershed Assessment (2004), will stabilize unvegetated, eroding stream banks and establish 3.6 acres of riparian vegetation by installing approximately 2,250 linear feet of riparian fencing and, over two years, planting 2,370 native riparian species (see the attached Revegetation Planting Table for plant species).

Copeland Creek encompasses a five square mile watershed that drains into the southern Laguna de Santa Rosa watershed, and is a significant biological resource and home to a number of sensitive species, including federally threatened steelhead trout. The upper watershed, originating from Sonoma Mountain, is steep and land use is primarily rural residential with some mixed agriculture. The creek emerges from the steep canyon and flattens out into an alluvial fan area where land use is dominated by denser agriculture and rural residential development. Lastly, the creek enters the valley reach that drains through the urbanized City of Rohnert Park, where the creek is channelized and highly altered before entering the Laguna de Santa Rosa. Due to excessive inputs of fine sediment and channel alteration in the lower urbanized reach, Copeland Creek regularly requires dredging of sediment as part of the Sonoma County Water Agency's (SCWA's) Stream Maintenance Program with additional dredging planned in 2011.

Current conditions at the proposed project site consist of large areas of stream bank without any mature riparian vegetation and cattle ranching activities that have impacted the active channel and banks by reducing riparian vegetation and increasing bank erosion. Since there is little to no vegetation on the banks, potential pollutant load from the project area that could enter nearby Copeland Creek has been estimated at 702,000 cubic yards. Improving riparian habitat by installing a variety of container plants and cuttings, in addition to installing riparian fencing , will stabilize eroding stream banks and filter surface water runoff from upslope sources, reducing pollution loads in to nearby Copeland Creek.

Furthermore, reducing the sediment and nutrient loads in Copeland Creek will also have benefits for the greater Laguna de Santa Rosa Watershed, which is currently impaired for sediment, temperature, dissolved oxygen, nitrogen, and phosphorus, according to the Clean Water Act Section 303(d) List of Impaired Waterbodies.

The plants used in this riparian enhancement project will be locally collected and propagated in a nursery near the project area which ensures that genetically appropriate material will be out planted to maintain the integrity of the current plant community and allow for an appropriate biologic response to site-specific conditions. All liner-sized plants will be installed with protective plant hardware and weed mats, to give the newly installed plants a competitive edge against weed seed drift, herbivory and ambient weed competition. Willow sprigs, emergent wetland plants, and alders will not receive hardware, or weed mats due to regular inundation in their respective planting locations. Plant installation will occur over two years with planting being conducted from November-January of each year.

Irrigation at the project site will be necessary for the project to succeed and will also be installed in two phases. This irrigation system will be an above ground, flexible tubing system with 2 liter/hour drip emitters placed at each plant location. The watering schedule will vary with seasonal temperatures, but it can be expected that a 30 minute watering duration 3 times a week would be sufficient to sustain plant growth. Wetland plants, willow sprigs, and alders will not be part of the irrigation system and will be expected to survive without summer water.

Fencing for this project will be a standard 3 strand barbed wire fence with T-posts installed approximately every 4 feet and cross braces at corners. This fencing will allow the ingress and egress of small- and medium-sized animals, but will not permit cattle entry. Additionally, cross channel fencing will be constructed so that it can be retracted during high flows for long periods of time, in order to avoid catching debris and creating an erosion site and/or barrier to fish passage.

Since livestock will be limited from accessing the stream, the project will also establish a water source in the fenced seasonal pasture. This water source will be designed in conjunction with the irrigation system and with technical oversight from the landowner and rancher. Most likely, this livestock water source will have to come from a well on the south side of Copeland Creek, on the property where the grazing is taking place. This project will also require increased management of the livestock operation due to the need to move the cattle between grazing pastures and ensure an off stream water source. This has been and will continue to be developed in cooperation with the landowners and ranchers.

Project Benefits:

The riparian fencing will exclude livestock from the project area allowing native plants, both planted and naturally recruited, to establish while ensuring grazing access to the best pasture on both sides of the stream. In addition to providing shade to the creek which will promote cooler water temperatures, the new riparian vegetation will help to stabilize eroding streambanks and reduce fine sediment input into the creek. Water quality will be improved by limiting cattle access to riparian areas which will reduce escalated nutrient and sediment inputs from manure and compacted soil. Improvement in water quality and temperature in addition to the increase in shade canopy will provide improved habitat for federally threatened steelhead trout and other aquatic organisms currently found in Copeland Creek. Creating a

greater diversity of both understory and canopy vegetation also provides a greater diversity of habitat for terrestrial animals and birds, enhancing the health of the overall biological community.

How does this project advance goals for the Water Agency's Stream Maintenance Program and pertain to the 2011 planned maintenance work?

Rather than waiting for maturation of the stream to occur by the slow process of community succession, we are giving this reach of Copeland Creek a head start in becoming a mature riparian community by planting a diversity of riparian species. Employing riparian enhancement combined with riparian fencing is a crucial step in creating a healthy, self-sustaining creek that will provide habitat to a variety of wildlife. Establishing new riparian vegetation will also help to stabilize the eroding streambanks and help filter out sediment and excess nutrients from upslope sources. This, in turn, will minimize costs of sediment removal and disposal for the SCWA's Stream Maintenance Program in lower Copeland Creek in addition to enhancing the health of the entire watershed.

Location. Right of Way Access.

Kimberly Pfendler owns one parcel in the project area (APM# 047-252-024). Sotoyome RCD is in the process of renewing the current LAA which ends at the end of this year. Penngrove LLC owns the parcel on the North side of the creek (APN# 047-252-025). Sotoyome RCD currently has a landowner interest agreement with Penngrove LLC., and is pursuing a Landowner Access Agreement.

Project Partners. Discuss the role of any project partners or public involvement.

Sotoyome RCD will work with the two private landowners to solidify project plans and development of new watering facilities for cattle. Landowner permitting, the Sotoyome RCD will work with The Bay Institute, and with the Sonoma State University Environmental Studies and Planning Department to implement the project. The Bay Institute's Students and Teachers Restoring A Watershed (STRAW) Project provides an integrated program for watershed studies, that centers on involving students in professionally designed, hands-on creek and estuarine restorations. For this project, STRAW would install the plantings and irrigation system during the first two years while Sotoyome RCD would perform the maintenance and monitoring activities during the entire project. The Sotoyome RCD would also work with interns from Sonoma State University Environmental Studies and Planning Department to provide plant survivability statistics from the project site.

Project Schedule, including implementation, maintenance, and monitoring.

- 1st quarter (May to July 2011): Finalization of fencing area and selection of fence installation contractor, landowner coordination and pre-project monitoring. Oversight of installation of riparian fencing and water source development for livestock.
- 2nd quarter (August to October 2011): finalization of riparian enhancement plan with landowner approval, coordination of planting days with landowners and Bay Institute.
- 3rd quarter (November 2011 to January 2012): Planting layout and Installation of Phase 1 planting, cuttings and container plants.

- 4th quarter (February 2012 to April 2012): Installation of the irrigation system for Phase 1 plants.
- 5th quarter (April 2012 to October 2012) Maintenance and monitoring activities will take place from April through October for the following 5 years: 2012 – 2016. Coordination and planning for second year planting days.
- 6th quarter (November 2012 to January 2013): Planting layout, Installation of Phase 2 plantings, cuttings and container plants.

Project Permitting. Discuss any necessary permits or approvals that may be necessary.

Permits are not required for this project.

Length and area of restoration and number and species of plants installed.

Length of restoration is 1,975 feet or 2,445 with riparian fencing at southeast end. The restoration area is 155,246 ft^2 or 3.6 acres. There will be 20 different species and a total of 2870 individuals planted in the restoration area.

Maintenance and Monitoring. Discuss planned maintenance.

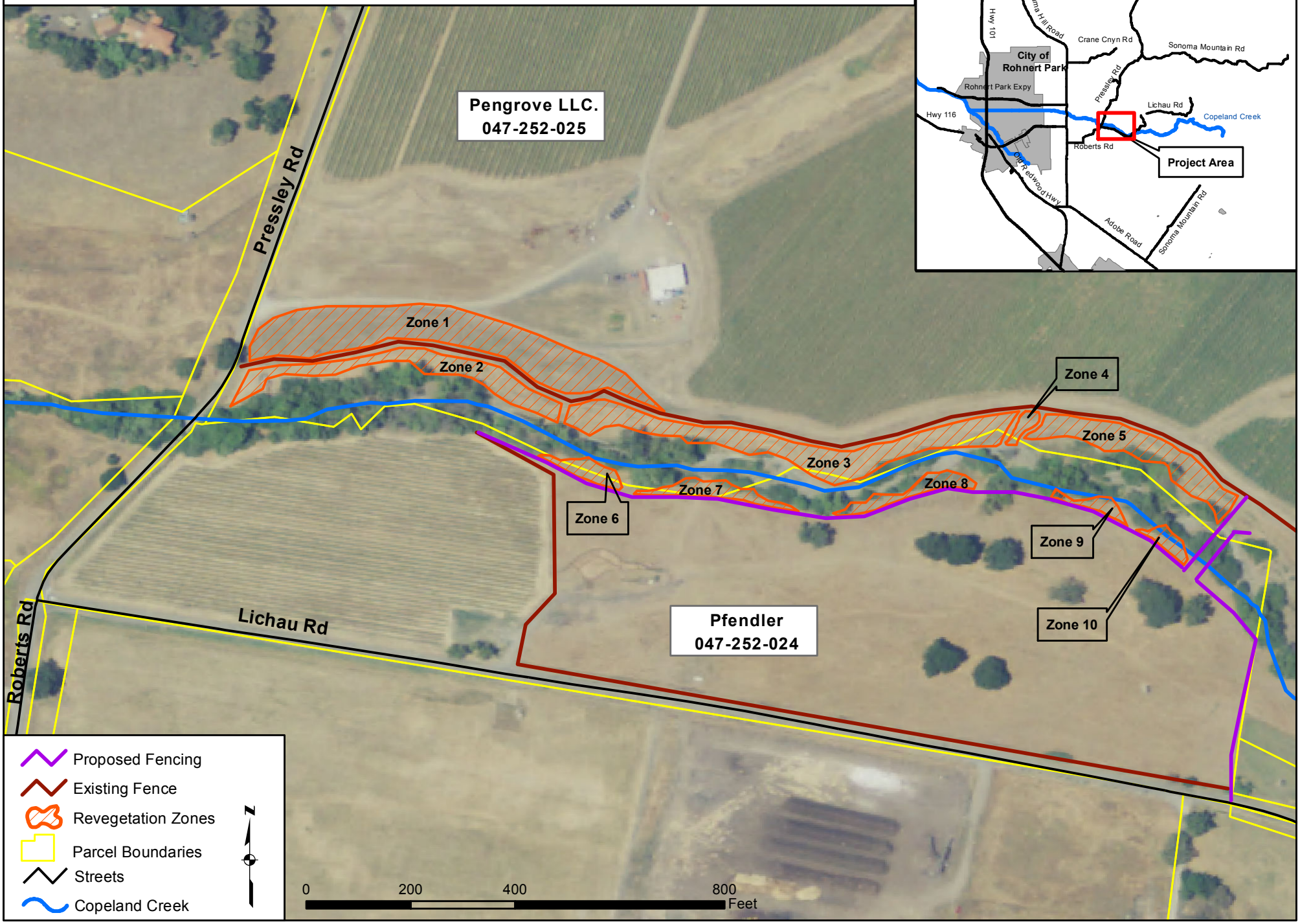
Maintenance of the plants and the irrigation system will take place from April to October of each year for 5 years. The irrigation system will be turned off, following the first rains, usually at the end of October. The irrigation system will have to be checked regularly, (usually every two weeks for first year, every three weeks for the second and third year, and once a month for the last two years) during its dry season operation to insure that each plant is receiving the appropriate amount of water and that there are no leaks or pressure losses. Wetland plants, willow sprigs, and alders will not be part of the irrigation system and will be expected to survive without summer water.

A plant survival survey will be conducted once a year during October and an annual report will be written and submitted to SCWA with a goal of 80% survival. Before and after pictures from set locations will be included in the report to show amount of plant growth and success.

Budget and supporting documents. See attached documents.

Copeland Creek Riparian Enhancement & Erosion Control Project

Map produced by Sotoyome Resource Conservation District, December 2010



Copeland Creek Riparian Enhancement Project

Description	Amount	Unit	Rate	Total Budget
Task 1: Project Implementation (includes fence installation, planting, and landowner coordination)				
Fence Installation	2,175	Feet	$7.00	$15,225.00
Wet crossing fencing	75	Feet	$15.00	$1,125.00
Gate Installation	1	LS	$1,200.00	$1,200.00
Water source development, south side of creek	1	LS	$4,000.00	$4,000.00
Planting (2 phases)--willows, rushes, sedges	870	Plants	$8.00	$6,960.00
Planting (2 phases)--container plants (contractor)	1,500	Plants	$22.00	$33,000.00
Drip irrigation for container plants (contractor)	1,500	Plants	$6.00	$9,000.00
Project Technician (Project Implemenation Coordination, plant mapping)	114	Hours	$61.00	$6,954.00
Executive Director	20	Hours	$85.00	$1,700.00
Restoration Ecologist	40	Hours	$68.00	$2,720.00
Mileage	1,708	Miles	$0.50	$854.00
Total Task 1				**$82,738.00**
Task 2: Maintenance and Monitoring				
Project Technician (Plant and irrigation system maintenance and monitoring)	195	hours	$61.00	**$11,895.00**
Total Task 2				**$11,895.00**
Task 3: Contract Administration				
Project Technician (annual report, contract progress reports)	80	Hours	$61.00	$4,880.00
Executive Director	50	Hours	$85.00	$4,250.00
Business Manager (invoicing and budget tracking)	60	Hours	$60.00	$3,600.00
Total Task 3				**$12,730.00**
Subtotal				**$ 95,468.00**
Overhead (10%)				$ 11,071.00
Total Requested Funding (over two years)				**$ 118,434.00**
Matching Funds from Sotoyome RCD				$ 10,000.00
Landowner in kind time and materials				$ 6,000.00
Interns-Native Plant Mortality surveys				$ 2,000.00
Total Project Budget				**$ 136,434.00**

Revegetation Plan for Copeland Creek Riparian Enhancement Project

Appendix C

Common Name	Scientific Name	Container Size	Planting Zones										Total by species	Spacing (feet on
			Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9	Zone 10		
White Alder	*Alnus rhombifolia*	supercell		25	75		10			10	5	5	130	8'-10'
Box Elder	*Acer negundo*	supercell		10	20		7	5	5	5	5		57	10'-12'
Oregon Ash	*Fraxinus latifolia*	supercell	20	12	20		5	7	10	4	4	4	86	10'-12'
Coast Live Oak	*Quercus agrifolia*	supercell	20	10	20		4		7	4	4	4	73	10'-12'
Buckeye	*Aesculus californica*	treepot	20	10	15		5		5	5		5	65	10'-12'
Valley Oak	*Quercus lobata*	deepot	20	10	15		4	4	4				57	15'-20'
Big Leaf Maple	*Acer macrophyllum*	supercell	20	12	20		7	7	7	7	5	5	90	10'-12'
California Bay Laurel	*Umbellularia californica*	supercell	20	12	20		7	7	7	7	4	4	88	10'-12'
Shining Willow	*Salix lucida*	cutting		30	70		15			15	10	10	150	4'-6'
Red Willow	*Salix laevigata*	cutting		30	70		15			15	10	10	150	4'-6'
Western Spicebush	*Calycanthus occidentalis*	supercell		22	25		15	10	15	12	10	10	119	4'-6'
California Wild Rose	*Rosa californica*	treeband or rosepot	25	22	25		20	10	15	15	14	12	158	4'-6'
Coyote Brush	*Baccharis pilularis*	supercell	22	22	22		20	14	15	15	10	10	150	4'-6'
Coffeeberry	*Rhamnus californica*	supercell	25	20	25		10	10	14	10	4	4	122	4'-6'
Toyon	*Heteromeles arbutifolia*	treeband	25	10	25		4	4	4	4	4		80	4'-6'
Creambush	*Holodiscus discolor*	treeband	20	20	20		7	7	10	10	4		98	4'-6'
Snowberry	*Symphoricarpus albus*	treeband	20	22	25		15	10	12	12	12	12	140	4'-6'
California Hazelnut	*Corylus cornuta*	treeband	25	22	25		10	7	10	10	4	4	117	4'-6'
Sedge	*Carex sp.*	on-site division or stubby				220							220	1'-3'
Rush	*Juncus sp.*	on-site division or stubby				220							220	1'-3'
TOTAL BY ZONE			282	321	537	440	180	102	140	160	109	99	2370	

SOTOYOME RESOURCE CONSERVATION DISTRICT

Copeland Creek Riparian Enhancement Project Site Photos

Photo #1: Copeland Creek stream bank devoid of riparian vegetation

Photo #2: Fine sediment deposited in Copeland Creek

Photo #3: Denuded stream bank

Photo #4: Cattle in stream and on stream bank

Please sign and return to:
Sotoyome RCD
P.O. Box 11526
Santa Rosa, CA 95406
Self addressed, stamped envelope provided.

RECEIVED FEB 5 2009

Agreement No. _____

LANDOWNER ACCESS AUTHORIZATION AGREEMENT WITH SOTOYOME RESOURCE CONSERVATION DISTRICT

This Agreement is made and becomes effective on January 1, 2009, by and between Kimberly Pfendler, hereinafter called "Landowner," and the Sotoyome Resource Conservation District, a division of state government, hereinafter called "SRCD" and will extend until December 31, 2010.

PURPOSE AND BACKGROUND

1. Based on assessment and monitoring activities, which focus on creek monitoring and habitat restoration activities in the Copeland Creek Watershed, a potential restoration opportunity has been identified on the Landowner's property. The SRCD is pursuing funding in partnership with the Landowner to design and implement a riparian vegetation enhancement project.

   For the purpose of this agreement, riparian will be defined as the area, including the necessary fence(s), between the fence(s) and the stream channel. This specifically includes the stream bank and associated vegetation within this area.

2. The Landowner is the fee owner of, or has beneficial interest in, certain real Property located in the Copeland Creek Watershed, Sonoma County, California.

   Referenced land is described by the grant deed recorded on Sonoma County Recorder's Office Book 047-252-024, 047-252-021, 047-252-020, and is hereinafter called the "Landowner's Property".

TERMS

Landowner and SRCD agree to the following:

1. **Grant of Permission**
   The Landowner hereby gives permission to SRCD staff and scientists to enter the Landowner's Property to design a riparian enhancement project in the creek area running through the Landowner's Property after no less than five (5) days advanced notice. If the Landowner approves the project as designed, a Landowner Access Authorization Agreement for implementation of the project will be requested of the Landowner.

2. **Notices**
   During the term of this agreement, SRCD shall request permission from the Landowner at least five (5) days in advance of entering the Landowner's Property. Request shall be sufficient if made to the Landowner either by telephone, email or by mail, directed to the address and telephone number shown at the bottom of Agreement or to an alternate address provided by Landowner directly below.

Address: _____
Phone/Pager/Email: 707.765.5700

3. **Protection of Resources**
   SRCD shall not disturb the Landowner's Property, except incidental to performing actions necessary to the riparian enhancement project such as installing plants and fencing and similar actions such as creating a livestock water source.

4. **Nuisance**
SRCD shall not perform any disorderly conduct on the Landowner's Property. SRCD shall not interfere with privileges or rights, which the Landowner has or may grant to others.

5. **Laws and Regulations**
SRCD shall comply with all federal, state and local laws and regulations relating to the use of the Landowner's Property.

6. **Indemnity**
RCD agrees to defend, indemnify and hold harmless the Landowner from and against loss or damage to Landowner arising out of RCD's use of the property pursuant to this Agreement, and to repair or pay for reasonable damages proximately caused by reason of the uses authorized by this Agreement, but excluding liability due to the negligence or willful misconduct of the Landowner.

7. **Assignment and Survival**
This Agreement shall be binding on any successors in interest to the Landowner only through the duration of the Agreement.

8. **Landowner's Title to the Premises**
SRCD's exercise of the rights and permission granted herein shall never give rise to any claim of title to the Landowner's Property on the part of SRCD or parties claiming through or under it.

9. **Termination**
This Agreement shall remain in effect through December 31, 2010, unless cancelled pursuant to paragraph 10.

10. **Cancellation**
Either party, within the party's sole discretion, upon 30 days written notice to the other party may cancel this Agreement.

11. **Recording**
This Agreement shall be kept on file at the SRCD offices and a copy signed by the SRCD District Manager will be returned for the Landowner's records.

The Landowner(s) must sign below:
Kimberly Pfendler
765 Baywood Dr., Ste. 147
Petaluma, CA 94954-5507
047-252-024, 047-252-020, 047-252-021

Landowner(s) Kim Pfendler, Trustee

(If joint tenants in common, etc., all must sign; if owned by Corporation, may need Board Resolution authorizing Secretary to sign; if Partnership depends on partnership agreement.)

Date: 2/3/09

The Sotoyome RCD Executive Director must sign below:

SRCD Kara Herbert
Executive Director
Sotoyome Resource Conservation District

Date: 2/5/2009

SOTOYOME
RESOURCE
CONSERVATION DISTRICT

SOTOYOME RESOURCE CONSERVATION DISTRICT
P.O. Box 11526
Santa Rosa, CA 95406

Copeland Creek Riparian Enhancement Project
Landowner Interest Agreement

The Sotoyome Resource Conservation District (SRCD) is pursuing funding for a riparian fencing for livestock exclusion revegetation and project on behalf of private landowners in the Copeland Creek Watershed, Sonoma County, California.

As a representative of Penngrove LLC, I, Tom Adams, am aware of and support SRCD's pursuit of funds to implement this habitat improvement project on Penngrove LLC property. Penngrove LLC's support of the project is subject to closer review and approval of actual work and/or any restrictions proposed on or that may effect the Pengrove LLC property (referenced as parcel 047-252-017).

Penngrove LLC
c/o Mike Cybulski and Tom Adams
mcybulski@ptvco.com and tadams@ppvco.com
047-252-017

Landowner(s) _____

Date: 3/19/09